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Libyan Elections: Can Secularists Survive?

Geopolitics Of Abu Dhabi Upstream Concessions

Lebanon's Gas: On The Way KRG And Federal Iraqi Contracts: Comparison Iraq's Economic Policy Oil Exploration In Iraq



ثِق بها، إعتمِدها.







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Publisher : Dr. Saleh S. Jallad	sjallad@mees.com	Published by: Middle East Petroleum and Economic Publications (Cyprus) Ltd.
Editor : Walid Khadduri	walid@mees.com	PO Box 24940 1355 Nicosia, Cyprus Tel: (+357) 22 665 431
Deputy Editor :		Fax: (+357) 22 671 988
Charles Snow	charles@mees.com	
		Contact Us:
Editorial Board:		info@mees.com
Walid Khadduri	walid@mees.com	Website: www.mees.com
Basim Itayim	basim@mees.com	
Theodoros Tsakiris	ttsakiris@mees.com	
David Knott	David@mees.com	
Production Manager :		
Shafiq Taher	shafiq@mees.com	
·		
Finance Manager :		
Mohamed Moussa	mmoussa@mees.com	

COMMENT

The political ramifications of the Arab Spring, are varied, surprising and different from one country to the other. This is especially the case in North Africa, where elections brought to power the Muslim Brotherhood in both Tunisia and Egypt, but not in Libya which witnessed the victory of the secularists National Forces Alliance (NFA). Whatever the results, the two forces have a limited time- till the next elections- to demonstrate whether they can retain power. Success will be judged not only on lofty foreign policy issues, but on the most basic domestic ones: Can the governments in Tripoli, Cairo/Tunis restore calm and then create jobs and ensure that people have food for their families, asks Mr. Gerald Butt, who adds that "to stay in power in societies where, for the first time,[the political groups] have to be accountable to the people. For Arabs now know that popular power harnessed to a democratic system enables them to choose new leaders."

There is a competitive race underway in Abu Dhabi over its major onshore oil fields, which produce over 1.4mn b/d and where the concession that operates them expires in 2014. The race is not just among the Western majors, as was the case previously, but also with large Asian firms. What makes the selection process interesting is the fact that the firms have active support from their governments to win a stake in the new consortium, writes Mr. Nick Wilson.

The East Mediterranean is the newest petroleum frontier in the Middle East. The East-Med incorporates some of the countries with the poorest energy-resources in the rich-hydrocarbon region (commercial gas reserves have already been discovered in Cypriot and Palestinian waters, while Israel is scheduled to start production from its northern fields next Spring). Lebanon, however, has been far behind its neighbors, missing several deadlines, not least of which is the establishment of a petroleum authority that would oversee the bidding process. The Lebanese delays, magnified by a weak and ineffective governments, have brought about a chorus of disapproval which "obscures the fact that efforts to create a viable national policy and infrastructure for the hydrocarbon sector have progressed over the past year," says Mr. Samer Khalaf, who maintains that the Ministry of Energy has undertaken an "effective campaign" to retain the interest of IOCs, and that with the aid of international consultants, the Ministry has

created a transparent legal and fiscal framework for exploration and development, and that officials from the various concerned ministries were given training. Significantly, Lebanon has taken a different course of action than its neighbors. It has gone ahead and commissioned the mapping of its sea bed and completed the interpretation of the seismic work, which gives the government an insight on resource assessment that would allow it to effectively delineate the different license areas and thus capitalize on more favorable terms with contractors.

The oil dispute between the Kurdistan Regional Government (KRG) and the Federal Iraqi Government has been one of the major sources of conflict in post-2003 federal Iraq. The dispute has escalated with ExxonMobil side-stepping Baghdad policies and signing with the Kurds. Mr. Kamil al-Muhaidi has studied both the KRG and Federal contracts signed with the IOCs, highlighting the differences in each category, and giving the reasons why the IOCs are ready to risk operating in the oil-rich south Iraq and work in Kurdistan instead.

Iraq's oil revenue has increased substantially since 2003, but the authorities are still failing to provide the basic services to the people (electricity, fresh water, adequate medical services). Dr. Fadhil Mahdi attributes the shortcomings since the downfall of the Saddam regime to the undermining of industrialization by wars and sanctions from 1950-80, with an accelerated economic decline in the 1990s and beyond as sanctions hindered the import of spare parts and raw materials. Along with the decline of industry, the economy was transformed into one that is reliant on both the import trade and the export of crude oil. Accordingly, with heavy reliance on oil, the economic locomotive of Iraq's economy became the Government's annual budget. Dr. Mahdi concludes: "The bulk of budgetary revenues from oil are financing public expenditure creating an expenditure multiplier effect that largely leaks abroad. In addition, public expenditure programs have been invariably tilted towards consumption at the expense of public investment."

Iraq's oil exploration strategy has adopted short-term objectives, argues Dr. Thamir Uqaili, who proposes that a long-term exploration policy should be adopted to convert at least 50bn barrels of the current Possible/Probable (P2/P3) reserves into Proven reserves; updating reserve estimates of the Western Desert by executing further seismic surveys and drilling new exploration wells. The main target is Palaeozoic ; updating reserve estimates of the Jezira Area(S Mosul-Euphrates River). The main target is Triassic and Jurassic reservoirs; assessment of the fields and potential structures of the Dyala Basin; delineation and exploration of the deep reservoirs in South Iraq: Yamama, Najmah, Mus/Adaiya and Khuff; evaluation of the heavy oil reservoirs of South Iraq(Lower Fars, Ghar and Maudud); and, delineation and assessment of the Border Fields.

Libya: Forward Under A Secularist Banner

Gerald Butt*



The challenges for the victorious National Forces Alliance (NFA) in Libya's first free elections differ only in detail from those faced by the Muslim Brotherhood, the dominant power in Egypt. Both groups, above all else, have a limited time to show whether or not they can reunite and rebuild their post-revolutionary countries. Success will be judged not on lofty foreign policy issues, but on the most basic domestic ones: can the new governments in Cairo and Tripoli restore calm, and then create jobs and ensure that people have food for their families? Achieving these goals will be by no means easy, particularly given the chasms which opened up among the various competing factions in the Arab Spring revolutions.

But while the broad aims of the new leaders in Cairo and Tripoli are similar, the differences in the details are considerable. For a start, the NFA's success took the majority of analysts by surprise. The assumption had been that the drift towards Islamist-based governments, in Tunisia, Egypt and Morocco, would continue through this region. In the event, NFA, led by former rebel Prime Minister Mahmud Jibril, won 39 constituent assembly seats out of the 80 that political groups (rather than independent candidates) were allowed to contest, far ahead of the 17 picked up by the Muslim Brotherhood's Justice and Constitution Party (JCP).

The NFA's performance will be watched carefully throughout the Arab world. For the most pressing question facing the region now is whether a new form of governance, rooted in the Arab and Islamic fabric of Middle Eastern society and based on democratic principles, can be found to carry the region forward towards a new era. It is a tall order and one should not expect instantly successful results. After decades of being excluded from the process, the Arab people are being asked to make hugely important choices, picking candidates for high office who have little or no experience of politics or national leadership.

^{*} Mr. Gerald Butt is former Editor-in-Chief of MEES.



How Islamists on the one side and secularists on the other will fare will determine what system of governance eventually emerges. Tunisia and Egypt are carrying the Islamic banner in the challenge ahead, while Libya is holding up the liberal/secularist one.

Islamists Lack Experience

The reasons for the JCPs poor showing are various. Western commentators have favored the view that Libyan voters were unimpressed by the performance thus far of successful Islamist groups in Tunisia and Egypt. But this interpretation was surely colored by the relief felt by those governments that had participated in the military defeat of Col. Qadhafi at the success of the secularist bloc. More significant were the divisions within the Islamist groups and their lack of experience in organizing and coordinating efforts on a country-wide basis. By contrast, the Egyptian Muslim Brotherhood, after years of grassroots' work, had a strong foundation on which to build a political program.

In Libya, the honeymoon period for the NFA is likely to be short-as is the West's satisfaction at the Islamists' defeat. For the latter will be using the coming months to organize themselves for future contests, while seeking to attract the support of the 120 independent members of the constituent assembly. In the view of *As-Sharq Al-Awsat* Columnist Dr. Hamad al-Majid Islamists will need to convince the electorate of their credentials as potential politicians of the future by demolishing the "pyramid of myths that has been constructed about them by their opponents, alleging that they would dismantle democracy if they came to power, or completely reject the democratic process if they were defeated. That is the only way the Islamists can triumph in defeat."

One of the biggest challenges facing the NFA will be the task of establishing law and order under a strong and centralized authority. Again, fast results will be necessary if the secularist bloc is to win public trust and confidence. The international community, too, will be looking for signs of the new government putting its house in order, not only by restoring calm, but also by bringing to justice those members of the rebel movement who have been accused by human rights groups of carrying out acts of torture and other atrocities against supporters of the former regime.



Such calls spring from practical, as well as moral, considerations. For example, up to now the nation's vital energy sector has managed to remain aloof from the maelstrom of insecurity and political turmoil. But officials at a number of oilfields, in the Ghadames and Sirte Basins and elsewhere, have been relying on militias to provide protection. This state of affairs will have to be ended if Libya is to realize its huge potential as an oil and gas producer by attracting international investment- to provide services to upgrade existing wells and to search for new fields.

Regional Grievances

A number of aspirations within Libya will also need to be addressed. The population of Benghazi, where the uprising against the Qadhafi regime began, has long felt isolated and neglected by the central government in Tripoli. The inhabitants of eastern Libya as a whole will be looking for signs that the first democratically elected government has taken heed of their grievances and offered them a greater share of the national spoils than before. Similar expressions of resentment can be heard in Misrata, the scene of the bloodiest and most decisive battle between forces loyal to Col. Qadhafi and the rebels. It is easy to forget that Libya has been a united country for only six decades- prior to the creation of the Kingdom in Libya in December 1951 it consisted of three provinces, Tripoli and Cyrenaica governed by Britain, and Fezzan by France. The coming months will determine whether this colonial creation will survive regional assaults on the country's unity.

But if and when a new government has finally settled in and taken a firm hold on the reins of power, Libya could be in a strong position to face the future. Unlike the case in Egypt, the population is tiny (only around 6-7mn), so a fair and open government should have no difficulty in reversing the wrongs of the past and ensuring that, in future, a generous and equitable sharing out of oil revenue takes place. As al-Hayat columnist Jihad al-Khazen wrote: "If there is security, then the rest of the problems will be much easier to solve in Libya than say, in Egypt. Indeed the country's population is small and it has a high income from oil, which is sufficient to repair what Qadhafi and then the revolution have ruined, and with speed."

Accountable To The People

At the same time, Libya should have a chance to construct a rational foreign policy that sees an end to the isolation from the Arab world at large. In particular, there will be an opportunity to turn over a new page of relations with other Maghreb states, enabling this region to enjoy better relations among member countries. A more coordinated Maghreb could exploit fully the regional trade and economic opportunities with Europe to the north and the Mashreq states to the east.

Such goals are still a long way down the line. For now, the challenge for the NFA and its political allies will be identical to that of Egypt's Muslim Brotherhood- to stay in power in societies where, for the first time, they have to be accountable to the people, For Arabs now know that popular power harnessed to a democratic system enables them to choose new leaders. By the same token they will be well aware that these same leaders can just as easily be removed via the ballot box. So if those elected to office fail to deliver on the most basic popular demands, then they can expect to be sent packing –whether they have come to power under the Islsmist banner or the secular one in Libya.

Geopolitics Of Abu Dhabi Upstream Concessions

Nick Wilson*



Abu Dhabi is prequalifying firms for its major onshore oil fields - which produce 1.4mn-plus b/d - when the concession of the consortium that operates them runs out in 2014. This is one of the most important oil industry decisions that Abu Dhabi will take, impacting its energy policies for decades. It has also launched the bidding process for two gas fields .International oil companies (IOCs) are competing to secure the concessions at a time of military and political tension in the Gulf. They enjoy different degrees of backing from their governments, MEES Gulf Editor, Nick Wilson writes.

State-owned Abu Dhabi National Oil Company (ADNOC) has invited IOCs to prequalify to bid for fields operated by the Abu Dhabi Company for Onshore Oil Operations (ADCO) consortium, whose concession expires in January 2014. ADCO – ADNOC (60%), Shell, Total, BP and ExxonMobil (9.5% each) and Portugal's Partex (2%) - aims to boost output to 1.8mn b/d by 2018.

Abu Dhabi stunned many in the oil industry when it did not invite BP, which has worked in the emirate for decades. It is unclear why BP has been snubbed, triggering widely differing theories and rumors in the industry. Germany's Wintershall, Partex and Austria's OMV were also not invited.

IOCs that have been invited include: Total, ExxonMobil, Shell, Maersk, Statoil, Occidental Petroleum (Oxy), Korea National Oil Company (KNOC), China National Petroleum Corporation (CNPC) and Inpex's Abu Dhabi subsidiary Japan Oil Development Company (JODCO).

^{*} Mr. Nick Wilson is MEES Gulf Editor

Statements by senior Abu Dhabi managers have kept the guessing game going about the emirate's strategic plan for the fields. In January 2012 ADNOC chief Abd Allah Nasir al-Suwaidi, who took over the company last year, said: "The first option is to treat it as one concession. The second option is to divide it into three or four concessions," adding "Anything can happen." In June, Muhammad al-Suwaidi, CEO of the Abu Dhabi Gas Industries (GASCO) consortium, said: "The most probable scenario is continuation of the IOCs' partnership with ADNOC, with a minimum 60% ADNOC holding and either one or more partners being from the West, or as we have seen recently, Korean or Chinese interests." Abd al-Munim Saif al-Kindy, ADCO's CEO said about BP's not being invited: "The whole process is just starting, so we can't be definitive with anyone. Still, everything is open. An invited IOC describes the prequalification and bidding processes as "confusing and unclear". He said this to *Bloomberg News* on July 15 – the deadline to IOCs to submit their prequalification submissions- about BP's not being invited: "The whole process is just starting so we can't be definitive with anyone. Still, everything is open. An invited IOC describes the prequalification and bidding processes as "confusing and unclear". He said this to *Bloomberg News* on July 15 – the deadline to IOCs to submit their prequalification submissions- about BP's not being invited: "The whole process is just starting so we can't be definitive with anyone. Still, everything is open. An invited IOC describes the prequalification and bidding processes as "confusing and unclear".

Some firms are targeting Partex's 2% stake. In 1938, Calouste Gulbenkian – known as 'Mr Five Percent' for his cut after negotiating the equity division of what became Iraq Petroleum Company between ExxonMobil, Shell, BP and Total – founded Partex. His two, 75-year concessions with Oman and Abu Dhabi still stand, but bring no technology suite, financial or military muscle from its government to the table.

Abu Dhabi may break up the consortium's concession and allow individual firms to operate separate fields. This would make IOCs keener to deploy enhanced oil recovery (EOR) technology in shared fields, and also speed up decision making. ADNOC has stressed to firms it invited to prequalify that they must bring EOR technology to the table. Industry insiders say in particular this means CO2 injection. The government has made a flagship of the emirate's clean energy initiative, Masdar, which plans what it calls "The World's largest Carbon Capture and Storage project." It will inject CO2 from power stations and industry into ADCO's fields.

The final decision about the fields will be made by the head of The Abu Dhabi Supreme Petroleum Council (SPC), the UAE's president Sheikh Khalifa bin Zayed Al Nahyan. His main advisor is the crown prince, Sheikh Muhammad bin Zayed Al Nahyan. IOCs say the president and crown prince are focused on tensions with Iran and the Arab Spring, which have shifted their attention from oil, making them defer a decision on the concession.

Influential members of the royal family also manage Abu Dhabi's state-owned energy firms, including Mubadala Development and International Petroleum Investment Company (IPIC), which has partnerships with Oxy, Total, OMV and the Japanese. IPIC owns a stake in OMV – which in partnership with Wintershall recently won production and exploration rights to undeveloped Shuwaihat gas field. Oxy operates Shah gas field and two small oil fields, and partners Mubadala and Total in Dolphin Energy, which imports pipeline gas from Qatar. Mubadala also owns Masdar and partners Oxy in oil concessions in Bahrain and Oman. IPIC and Mubadala jointly own the strategic Habshan to Fujairah crude pipeline that bypasses the Strait of Hormuz.

Asian firms Get strong government support

Asian firms are involved in the UAE's military security and their own energy security. Top officials from South Korea, Japan and China, including Chinese Premier Wen Jiabao, have visited Abu Dhabi in the past 12 months. They were promoting their countries IOCs and/or securing more crude to replace their reduced imports of Iranian crude.

China

In March, Chinese Premier Wen Jiabao met Sheikh Muhammed bin Zayed Al Nahyan in China, on the heels of a visit by the Chinese premier to Abu Dhabi earlier in the year. The premier called for bilateral energy cooperation.

When China Petroleum Engineering and Construction Corporation subsidiary of state-owned CNPC won the contact to build a 1.5mn b/d Strait of Hormuz bypass crude pipeline, it was billed as a triumph of UAE-China collaboration. Technical problems have delayed the pipeline by nearly two years – it won't be fully operational till the end of the year - at a time of growing tension and Iranian threats to close the Strait. Nonetheless CNPC, which only has pilot scheme CO2 EOR experience and lacks proprietary technology, has been invited to prequalify.



China is a major buyer of UAE crude, and – along with France, UK and US - is a permanent member of the UN Security Council. It also has leverage with Iran - where its state-owned firms operate oil and gas fields. And Beijing is a key ally of Iran in supporting Syria's embattled government. Furthermore, China is increasingly supporting its oil firms through banks and its export credit agency, Export-Import Bank of China (China Exim).

Korea

South Korea has also been forging strong links with Abu Dhabi, despite KNOC's limited CO2 EOR experience and lack of proprietary technology. Early this year KNOC won the right to operate three untapped oil fields outside the ADCO concession area. Seoul also said South Korea will close another deal this year for a concession that holds more than 1bn barrels of oil in place.

In May Sheikh Muhammed bin Zayed Al Nahyan visited South Korea, meeting President Lee Myung-bak as part of a high-level trade and diplomatic delegation. Bilateral trade has grown to \$22bn. The South Korean president is a former CEO of Hyundai and has extensive business experience in the Middle East. He has made two visits to the UAE in two years.

Korean firms are leading Abu Dhabi's \$20bn nuclear power program to build four nuclear reactors, which will help ease the country's gas shortage. South Korea is also helping the emirate develop defense and education, building a new 400,000 b/d refinery at Ruwais, and a 6mn barrel strategic storage depot for Abu Dhabi crude. Korean companies collaborate closely and bring a lot of funding with them. Two state-owned export credit agencies provide direct loans and risk cover, while banks supply the underlying funding.

Japan

Tokyo is helping Japanese firms develop CCS technology, JODCO is completing a CO2-EOR study together with state-owned Japan Oil, Gas and Metals National Corporation (JOGMEC) in Abu Dhabi's offshore Lower Zakum oil field. JOGMEC was founded by the Japanese government to develop EOR technology and in recent years has focused on CCS. Tokyo's Ministry of Economy, Trade and Industry (METI) – not its environment ministry - is developing a carbon capture and storage (CCS) project to bury CO2 offshore Japan.

State-owned banks also provide funding - which is crucial at a time of European bank money having dried up - making contractors and energy companies bring their own funding as part of their bid. A European



utility company recently won a contract to build an independent water and power project (IWPP) in Abu Dhabi. It then had to invite a Japanese firm to form a joint venture – providing the finance. Western firms now contact the Japanese before they bid, a contractor says.

Tokyo is experienced at packaging deals and getting its diverse firms – engineering, finance, utilities and oil – to work together. In 2010-11 a \$3bn loan from state-run Japan Bank for International Cooperation (JBIC) to ADNOC helped win the extension of Japan's Cosmo Oil concession, which was due to expire in 2012. JODCO is also trying to secure its stake in offshore Abu Dhabi Marine Operating Company (Adma-Opco) concession that comes up for renewal in 2018. By then its production capacity is expected to total 840,000 b/d. Other partners include ADNOC, BP and Total.

Relations between the two countries are warm – Abu Dhabi increased the amount of LNG it sends Japan by 840,000 tons, after the 2011 disaster at TEPCO's plant in Fukushima. It offered to help in reconstruction, and is providing more crude to help it reduce Iranian imports. Japan has developed a deep relationship with Abu Dhabi, which it relies heavily on for its energy security, over 40 years including the 1973 oil crisis. In 2007 Japan's Cosmo Oil bought into a new firm that IPIC set up to promote energy business in the Asia-Pacific region. Bringing CO2 technology to Abu Dhabi deepens the relationship further and would give them an edge over Korean, Chinese and some Western IOCs.

Western Firms Also Fight Hard

Some Western governments are also backing their own IOCs, according to an IOC source in Abu Dhabi. "Governments have always backed their firms, but I'm shocked to see how open it is now," an ADNOC official, who is not involved in the concessions, said: "If you bring Total, BP, Shell and ExxonMobil on board, you get the military back up of Washington, London and Paris."

In July Sheikh Muhammed bin Zayed Al Nahyan, who is also Deputy Supreme Commander of the UAE Armed Forces met the French Prime Minister in Paris. In May a UAE-French joint military exercise codenamed "Gulf 2012" was carried out.

ExxonMobil is focused on geopolitical fallout from Iran, an IOC official said in May. "John Kerry from the US Senate Foreign Relations Committee was in town recently and the island issues were on the agenda," he said. In April, the dispute between Iran and the UAE over the three islands of Greater and Lesser Tunb and Abu Musa, which strategically straddle the entrance to the Strait of Hormuz, had flared up again. Iran has threatened military action to protect the territory it claims where it has troops and missiles stationed. France and the US have taken the UAE's side in the dispute – urging Iran to settle it in an international court.

Western majors are also offering CO2 technology and experience - ExxonMobil, BP and Shell are in talks with Masdar.



SPC Reigns

An IOC official says: "Look at what happened in Upper Zakum and Shah - nothing is certain until the SPC physically signs." In 2006 BP was confident of getting a 28% stake in Zakum Development Company (ZADCO), which operates the Upper Zakum field – because ADNOC had told it this. The Abu Dhabi Supreme Petroleum Council (SPC) subsequently awarded it to ExxonMobil.

Also in 2006, ADNOC had asked firms to prequalify for bidding for Shah gas field. The SPC finally awarded the \$10bn contract to ConocoPhillips in 2008, overruling ADNOC's recommendation to pick Shell. When ConocoPhillips's abandoned the project, the SPC selected 0xy, again overruling ADNOC. 0xy, which has relatively limited experience in handling ultra sour gas, has missed completion target dates of engineering contracts.

The onshore gas fields concession renewal of Abu Dhabi Gas Industries (Gasco) – ADNOC (68%), Shell (15%), Total (15%) and Partex (2%) – was held up for six months after it expired. Abu Dhabi had been studying breaking it up into individual fields but by default it was forced to renew it for a further 20 years. The decision was reached in March 2009 and post dated from October 2008.

ADNOC recently invited selected firms to bid for two sour gas fields - its 400-600mn cfd, multi-billiondollar, onshore Bab, and similar-sized offshore Hail. Bab was first tendered in 2007 alongside Shah, but attracted few bidders – unlike Shah it has dry gas. Abu Dhabi, which subsidizes its domestic gas market, was reluctant to pay the cost necessary to develop the field. Difficult gas fields in the Gulf cost \$4-6/mn BTU to develop.

Selected firms for Bab include majors from France (Total) and the UK (BP) and state-owned Korea National Oil Corporation (KNOC), despite its lack of experience in handling sour gas. For Hail Norway's Statoil and US's Chevron have been invited.

The fields' developments are of key strategic concern to Abu Dhabi, which burns more than 30,000 b/d of crude and gasoil daily during summer to meet peak power demand, and is preparing to import LNG.

Both consumer nations' energy security and the region's military security are key factors in the concessions awards. And the competition among the IOCs is fierce for what are likely to be the most interesting stakes in the Middle East for some years. This combination has triggered governments working hard behind the scenes and openly to influence the process in favor of their firms.



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Lebanon's Gas: Slowly But Surely

Samer Kalaf*



Criticism of the slow progress towards a tender process to invite companies to explore for hydrocarbons in the waters off the Lebanese coast is becoming louder. But the critics must also see that Lebanon is slowly, but surely, headway in its preparations to absorb this new challenge. The chorus of disapproval we are hearing obscures the fact that efforts to create a viable national policy and infrastructure for the hydrocarbon sector have progressed over the past year.

An effective campaign to maintain major oil company interest from around the globe was launched through efficient data management, direct interaction, and public awareness as well as specialized seminars. With the help of international consultants, a transparent legal and fiscal framework for exploration and development was approved which is advantageous to oil companies and at the same time grants the country favorable terms to profit from and capitalize on its potential wealth. Officials and advisors from the various concerned ministries were given adequate international training and are now able to effectively negotiate and support the various ministries in their discussions with oil companies.

Whereas many emerging markets with potential mineral wealth have rushed to contract companies without establishing the proper structures and regulations to protect their interests and guarantee effective exploration and production, Lebanon has prepared itself effectively. It is not uncommon for emerging oil countries to be influenced by major oil companies to draft petroleum laws skewed in the latter's favor, or to approve laws indirectly harming their economy and labor market. Some nations have gone so far as to have granted all their acreage to a single oil company while many have allocated attractive concessions to small companies with no experience and funding.

^{*} Mr. Samer Khalaf is Managing Director for Middle East and Africa at GPB (Gazprombank) Neftgaz Services.



On the technical side, Lebanon has commissioned the mapping of over 14,000 linear Kilometers of 2D seismic scans and over 10,000 square Kilometers of 3D seismic scans and completed their interpretation thus significantly lowering eventual exploration risks for bidders and saving time in the exploration stage.

This effort has also given Lebanon insight on resource assessment that would allow it to effectively delineate the different license areas and thus capitalize on more favorable terms and conditions with contractors For a country with a volatile political climate in a region turned upside down in the past two years, while at the same time struggling to rebuild its institutions and economy, Lebanon has set the ground work and improved its chances for a successful road ahead. A major risk for a nation's interests in its hydrocarbon wealth is the non-performance of contractors usually due to lack of expertise and funding. Lebanon has implemented a consortium system based on technical and financial capabilities therefore limiting the risk of non-performance by not allowing smaller inexperienced companies to obtain any acreage.

The criticism on the delays and lack of progress towards engaging oil companies is not unwarranted however, especially when compared with the achievements of Lebanon's neighbors. Syria is an established oil producer; Cyprus has just completed its second bid round while Israel is on its way to commercial production next year. The government has missed milestone after milestone and left oil majors, who continue to show strong interest, with a lack of guidance on whether the hydrocarbon file will be ready for tendering before the upcoming elections next year, when a new government would be formed.

This is happening against a backdrop of a fast deteriorating economy coupled with a dire electricity crisis in need of investment and an adequate and less-expensive source of gas supply. The government took it upon itself to set aggressive timelines without properly grasping the complexity and political delicateness of managing such an overwhelming process.

The major milestone needed to lay the tracks for the first bid round is the establishment of a petroleum administration made up of six members covering the different religious confessions in the country with a rotating presidency. The administration would act as a de facto national oil company, until one is formed, raising all relevant issues to the Minister of Energy & Water. Establishment of this administration has been the main stumbling block for advancing the offshore gas file. Fast developing regional and local events along with the government's constant infighting has been the reason for this failure and has taken the steam out of the initial enthusiasm for the hydrocarbon opportunity demonstrated when the government was established in June last year.

Looking ahead, we should not be overcritical at the country's slow pace and should remain realistic in our expectations. There is more vital work to be done and more political harmony needed before Lebanon reaches its ultimate goal of becoming energy independent.

KRG And Ministry Of Oil Contracts: A Comparison*

Kamil al-Mehaidi **



The Kurdistan Regional Government (KRG) has signed a total of 48 oil contracts with international oil companies (IOCs), six of which were concluded recently, November 2011, with the US's ExxonMobil, which already had a contract with the Federal Ministry of Oil to develop the first phase of the West Qurna field in Basra. The agreement between ExxonMobil and the KRG sparked an angry vocal response from the Central Government, which threatened to cancel the Company's West Qurna contract if it did not pull out of the KRG deal. The threats have continued to be issued, but without thus far being carried out. It should be borne in mind that some of the exploration zones awarded to ExxonMobil lie in disputed areas. According to US sources, the disputed territories include all of northern Mosul, extending southwards to include all of Kirkuk Province and most of Diyala, as far as Wasit Province. This means that if the plans were to be implemented according to KRG ambitions, then the area of Kurdistan's territory would be doubled from its current size, with Iraq losing its borders with Turkey as well as the historic route to Iran via Khanaqin. Furthermore, Kurdistan would become the fourth party to take a share of the Tigris River waters.

It is well known that the oil contracts of Kurdistan remained a secret to everyone, including the parliament of the Kurdistan Region and the Federal Government in Baghdad, until they were published for the first time in September 2011. By reading through these contracts, it can be seen that they are of exploration and development nature involving some risk. But the risk is not big because the ratio of success/failure of exploration in the Region is considered to be good, especially in areas in the east and northeast. Also, all the contracts were production-sharing contracts (PSC) and all but three were signed after the publication of the Iraqi Constitution in 2005. The three earlier ones, signed in 2004, were with Norway's DNO in Irbil, Turkey's Genel Energy in Taq Taq and DNO in Tawke.

^{*} MEES translation from the Arabic original.

^{**} Mr. Kamil al-Mehaidi is a petroleum specialist with a long experience in the Iraqi oil industry, focusing on production and reservoir management. He worked in the Kirkuk production department, and was head of the Petroleum Engineering Department and head of fields development (Baghdad), as well as Assistant General Manager for Studies (Ministry of Oil). He is presently the Manager of the Consulting firm "Green Fields Oil, GFO". Email: kamehaidi@yahoo.com

It is also common knowledge that the Iraqi Constitution of 2005 includes two major articles about oil, namely, Article 111 and Article 112, and that these articles do not permit the taking of unilateral decisions. Nor can they be overridden by political understandings between one bloc and another.

The aim of these contracts, as stated in them, is to develop the oil wealth of Kurdistan in such a way as to achieve the maximum benefit for the people of Kurdistan and the Iraqi people as a whole, in line with the Iraqi Constitution, including Article 112. The aim of this analysis is to take a look at the contents of these contracts and to assess the degree to which they tally with the above stated aim to "achieve the maximum benefit to the people of Kurdistan and the Iraqi people as whole" by comparing them with Ministry of Oil contracts.

Oil contract for the Kurdistan region include the following:

1. Royalty And Bonuses

The exploration period is five years, extendable on an annual basis, for a maximum of seven years from the date of the contract. The development and production period is 20 years from the date of the declaration of a commercial discovery at the field, extendable for a further five years at the contractor's request. This is commensurate with the development and production period allowed in the Federal Ministry of Oil contracts. And the Regional Government reserves the right to participate in up to a 25 per cent share in contracts with IOCs, as is the case with Federal Ministry of Oil contracts.

The most important element in the contracts gives the Region a right to royalty comprising 10 per cent of the oil produced, aside from that used for petroleum operation purposes. This works directly in favor of the Region as it increases its profitability, while reducing that of the IOCs. It is indirectly in the Region's favor, too, because it extends the development cost recovery period. Ministry of Oil contracts do not include such advantages, and it might have been better to have inserted these conditions, albeit at the expense of the IOCs' increased profitability.

The Regional contracts also include various bonuses, some recoverable, others not recoverable. The recoverable bonuses include rentals on successful exploratory areas at the annual rate of \$10 per sq km, bearing in mind that each exploration area covers around 200 sq km. There is also a subsidy of \$150,000 a year for environmental protection during the exploration period, rising to \$300,000 a year during the development and production period. These are small amounts in relation to the size of the project. There are no equivalent amounts in Ministry of Oil contracts because, on the one hand, there are no exploration operations being carried out, while, on the other, IOCs have signed a commitment to protect the environment as part of their contracts.

Non-recoverable bonuses in Regional contracts include signature bonuses and capacity building bonuses. These two differ from one contract to another, but generally involve small amounts. For example, in the Ain Sifni contract signed with Hunt in 2007, each amounted to \$2mn, while the figures were \$1mn and \$54mn respectively in the 2010 Central Dohuk contract with Murphy and Petroquest. Of considerable importance are the production bonuses, which rise from \$2.5mn at the start of production to \$20mn when accumulative production reaches 50mn barrels, reaching a total value of \$37.5mn.

Ministry of Oil contracts have been revised in this respect, as far as I am aware, so as to be nonrecoverable amounting to \$150mn for Zubair and West Qurna fields. The recoverable bonus for Rumaila remained unchanged at \$500mn. There are no other bonuses in Oil Ministry contracts.

2 – Cost Oil

Costs include capital and operational expenses, and recoverable bonuses, in addition to the cost of successful exploration operations. IOCs will cover exploration costs in unsuccessful areas. But to calculate the profitability factor (factor R) one needs to add non-recoverable costs as well to determine the accumulated costs that go into calculating this factor.

It is important to mention that the recovery of these costs comes from the allocation of 40 per cent of remaining oil revenues, after deducting the royalty of KRG, which is 10 per cent of total revenues. By comparison, Ministry of Oil contracts do not include royalty, and IOC entitlements are covered by the allocation of 50 per cent of total revenue. This means that the payment of dues to IOCs is faster in Ministry contracts than Regional ones, as will become clear later on.

3 - Profit Oil

Profit accruing to the contractor depends on the ratio of the accumulated revenues to that of accumulated costs. This is known as the profit factor (R factor). In most Kurdistan contracts profit oil is about 30 per cent, if the profitability factor is equal to one or less, and profitability drops to 15 per cent if the factor is more than two. If the factor sits between one and two, then it is determined by mutipling the difference between the two percentages by (R-1). According to our estimation, this mid-way ratio is up to 20 per cent of the remaining oil after subtracting royalty or up to 18 per cent of total production.

By comparison with Ministry of Oil service contracts, the profitability for IOCs is at the rate of \$2/B if the R factor is less than one, dropping to \$0.6/B if the R factor is two or more. The profitability in between the two limits of R stands at \$1-1.6/B, depending on the actual magnitude of R factor. Significantly Ministry of Oil contracts include producing fields such as Rumaila and Zubair where profitability depends on the extra barrels that the IOCs can produce.

All contracts are subject to income tax. In Ministry of Oil contracts this is set at 35 per cent of IOCs' net profits, while in Rregional contracts it is set at a maximum of 40 per cent. The rate was 15 per cent in the Central Dohuk contract with Hunt.

The accounts simplified below show the difference in cash flows in KRG model contracts and those of the Ministry of Oil for a hypothetical green field producing 100,000 b/d at an assumed stable oil price of \$100/B. Income tax is set at 35 per cent of the IOCs' profit before tax, and total expenditure is 10 per cent of revenues, including all recoverable and non-recoverable expenditure.

KRG Contracts (\$Mn)

	KRG	IOCs
Royalty (10 per cent_	365	
Cost Oil (10 per cent)		365
Profit Oil (20 per cent)	2,336	584
Tax (35 per cent)	204+	204-
Total	2,905	745

Ministry Of Oil Contracts

	Ministry	IOCs
Royalty	-	-
Cost Oil (10 per cent_	-	365
Profit Oil (\$2/B)	3,212	73
Tax (35 per cent)	26+	26-
Total	3,238	412

The above figures show that the cash flow for companies in KRG model contracts is nearly double that in Ministry contracts (\$745mn for the former and \$412mn for the latter). A more detailed analysis of these costs follows.

4 . Cost Analysis

To complete the economical comparison between the two model contracts, we have to carry out Discounted Cash Flow calculations to determine some important indicators that are necessary to evaluate the contracts better. The most important of all these indicators are the Internal Rate of Return (IRR) and the Present Value of oil revenues.

For this purpose calculations have been made on the basis of the hypothetical green field, developed according to the model contracts of both KRG and the Ministry, and using the assumptions laid out below in Annexes 1 and 2. These calculations show the following:

- The IRR of IOC investments in the Kurdish region amounts around 31 per cent, compared with about 19 per cent for Ministry of Oil contracts. In early KRG contracts the IRR could exceed 35%. This means that Regional contracts are more profitable for IOCs than Ministry ones, and this explains the attraction for companies to work in the KRG region, despite the ensuing political complications with the Central Government.
- From the attached tables, it can be assessed that the average IOCs profitability from KRG contracts is 21% of production, plus or minus 1 per cent. Profitability from Ministry contracts were assessed at an average of \$1.6/B, plus or minus \$0.1/B. The calculations were made according to these averages.
- The Present Value due to the IOCs, discounted at 10 per cent, is about \$2.44bn at the end of a 20-year period, based on KRG contracts. Based on Ministry contracts the figure is about \$596mn. This means that a company working on a regional contract will reap profits roughly four times more than those from a similar field in the south, under Present Value calculations. Additionally, IOCs in Kurdstan enjoy the benefit of windfall profits associated with rising oil prices.
- The full payment of development costs in the Region is achievable in four years, twice that in Ministry contracts, because of the royalty included in the Regional contract, in addition to the fact that the recovery cap of costs is less than in the Ministry contracts, and this is to the advantage of Regional contracts.

5 - Concluding Remarks

This article shows that KRG contracts are generous to IOCs, when compared with those of the Federal Oil Ministry, despite the fact that exploration and development contracts bear some risk. It is difficult to understand how these contracts can seek to achieve the highest benefit to the people of Kurdistan and the Iraqi people as a whole, as stated in the introductions of KRG contracts, unless we view the subject from a political perspective and ignore the economic issues. In which case the contracts are in the political interests of Kurdistan alone, and not of Iraq as a whole.

In addition to this, and because KRG contracts are production-sharing, IOCs take extra benefit from windfall oil price spikes, as is happening now. Kurdish negotiators could have put a ceiling on this, with whatever is above this ceiling goes to the Region, wholly or in part. It should be noted that oil prices have doubled since 2005, as have the profits of IOCs contracted to the KRG Region, whereas the profits of IOCs contracted to the Ministry have remained constant, i.e. unrelated to oil prices.

It is worth touching upon the link between KRG contracts at the practical level, and current and potential disputes with the Central Government . For example, what is to happen to the KRG's 10 per cent royalty on production? Is this royalty transferred to the Federal Government or does it remain with the Regional one? If the Regional Government keeps it, then will this affect the region's 17 per cent share of the Central Public Budget or not? Press leaks indicate that the KRG will recover 50 per cent of its official oil exports to cover IOCs' expense claims. Bearing in mind that IOCs' claims are covered by 40 per cent of exports, according to most contracts for the Region, then the KRG retains 10 per cent of what it has recovered from its official exports – a percentage equal to that of royalty in the Region's contracts.

Another subject of difference is how much revenue from the Kurdistan fields and the rest of the fields in Iraq goes to the Federal Government Treasury. The contribution of Kurdistan fields, according to KRG contracts, is about 70 per cent of total revenue, after deducting company dues (20 per cent) and the Regional Government's royalty (10 per cent). The contribution of the remaining Iraqi fields, by contrast, is 95 per cent of their total income based on current oil prices of about \$100/B. Who is going to bear the cost of these differences in returns? There is also the subject of bonuses in the Regional contact that go to the KRG. There is no equivalent in the Oil Ministry contracts. Should other producing regions not be entitled to the same? These points need to be examined, in a way that is fair to all the producing regions and the Iraqi people as a whole.

APPENDICES

Cash Flow Calculations, KRG Contract Model

Figures in \$mn Appendix 1, page 1 Year 1 2 3 4 5 6 7 8 9 Capex Opex Prod. Prod. Rev. Royalty R.Rev. Profit Tax 650 1 2 650 3 550 4 100 55 50 18.3 1,825 182.5 1,642 328 115 5 88 80 29.2 2,920 292.0 2,628 526 184 _ 6 110 100 36.5 3,650 365.0 3,285 657 230 -7 100 36.5 30 110 3,650 365.0 3,285 657 230 8 30 110 100 36.5 3,650 3,285 657 365.0 230 9 100 36.5 3,285 657 30 110 3,650 365.5 230 10 30 110 100 36.5 3,650 365.5 3,285 657 230 11 30 105 95 34.7 3,468 346.8 3,121 624 218 12 30 99 90 32.8 3,285 328.5 2,956 591 207 85 13 30 94 31.0 3,102 310.2 2,792 559 196 14 30 88 80 29.2 2920 292.0 2628 526 184 27.7 15 30 84 76 2774 277.4 2497 499 175 16 _ 79 72 26.3 2628 262.8 2365 473 166 75 2234 17 68 24.8 2482 248.2 447 156 _ 23.4 18 70 64 2336 233.6 2102 420 147 _ 19 1971 394 66 60 21.9 2,190 219.0 135 -20 57 20.8 2,081 208.1 1,873 374 62 131 Total 2,220 1,515 68.8 502.6 50,261 5,027 45,234 9,041 3,167

(1) Estimated capital cost including exploration cost and recoverable bonuses, needed for developing a green field to a plateau of 100,000 b/d.

(2) Operating expenditure, estimated at \$3/B. (3)- Production rate in '000 b/d. (4)-Production in million barrel per year. (5)- Gross revenue in million \$mn/year). (6)- Royalty \$mn/year. (7)- Remaining revenue \$mn/year. (8)-Profit oil before tax \$mn/year, calculated at 20% rate. (9)- Tax, 35%

Cash Flow Calculations, KRG Contract Model

Figs.	In \$Mr	า							
	10	0 11	12	13	14	15	16	17	18
Year	Сар	C.Rec	NCF (Cum. C	Cum.R	R	10%	30%	35%
1				650	-				
2				1,300	-				
3				1,850	-				
4	657	289	657	2,005	657	0.33	449	230	198
6	1,051	621	1,051	2,093	1,708	0.82	653	297	234
6	1,314	777	1,314	2,203	3,022	1.29	742	292	217
7	1,314	163	730	2,343	3,752	1.60	375	116	89
8	1,314	-	567	2,483	4,319	1.74	265	70	51
9	1,314	-	567	2,623	4,886	1.86	240	53	38
10	1,314	-	567	2,763	5 <i>,</i> 453	1.97	219	41	28
11			541	2,898	5,994	2.07	190	30	20
12			513	3,027	6,507	2.15	163	22	14
13			487	3,151	6,994	2.22	141	16	10
14			460	3,269	7,454	2.28	121	12	7
15			438	3,383	7,892	2.33	105	9	5
16			380	3,462	8,278	2.39	84	6	3
17			366	3,537	8,644	2.44	72	4	2
18			343	3,607	8,987	2.49	62	3	2
19			317	3,673	9,304	2.53	53	2	1
20			305	3,735	9,609	2.57	51	2	1
Tota	I						2,444	+58	-142

10- Recovery Cap, 40% Of gross revenue less royalty.

11- Cost recovery, \$mn

12- Net Cash Flow (IOCs entitlement)

13- Cumulative Cost, \$mn

14- Cumulative Revenue, \$mn.

15- R. Factors. From them , the average profit oil is found to be (21% plus/minus 1%).

16- Discounted cash flow at 10% rate.

17- Discounted cash flow at 30% rate

18- Discounted cash flow at 35% rate. From 16,17 and 18, the (IRR) is found to be (31%).

Cash Flow Calculations, Ministry of Oil Contract Model

Appe	ndix 2, I	Page 1					Fi	gures in	\$Mn
	1	2	3	4	5	6	7	8	9
Year	Capex	Opex	Prod.	Prod.	Revenue	Profit	Tax Re	c. Cap	Cost Rec
1	600	-	-	-	-	-	-	-	-
2	600								
3	500								
4	100	55	50	18.3	1,825	29.2	10.2	913	739
5		88	80	29.2	2,920	46.7	16.1	1,460	961
6	-	110	100	36.5	3,650	58.4	20.4	1,825	-
7	30	110	100	36.5	3,650	58.4	20.4	1,825	-
8	30	110	100	36.5	3,650	58.4	20.4	1,825	-
9	30	110	100	36.5	3,650	58.4	20.4	1,825	-
10	30	110	100	36.5	3,650	58.4	20.4	1,825	-
11	30	105	95	34.7	3,470	55.5	19.4	1,735	-
12	30	99	90	32.8	3,280	52.5	18.4	1,640	-
13	30	94	85	31.0	3,100	49.6	17.4	1,550	-
14	30	88	80	29.2	2,920	46.7	16.4	1,460	-
15	30	84	76	27.7	2,770	44.3	15.5	1,385	-
16	-	79	72	26.3	2,630	42.1	14.7	1,315	-
17	-	75	68	24.8	2,480	39.7	13.9	1,280	-
18	-	70	64	23.4	2,340	37.4	13.1	1,170	-
19	-	66	60	21.9	2,190) 35.0	12.3	1,095	5 -
20	-	62	57	20.8	2,080) 33.3	11.6	1,040) -

1- Estimated capital expenditure, required for developing a green field to a plateau of 100,000 b/d.

- 2- Estimated operating expenditure, \$3/BI.
- 3- Production rate, '000 b/d).
- 4- Production per year, '000 barrels/year.
- 5- Revenue, \$mn/year, assuming oil price of \$100/B.
- 6- Profit at an average of \$1.6/B.
- 7- Tax at 35% of profit.
- 8- Cost recovery cap, 50% of revenue.

9- Recoverable cost

Cash Flow Calculations, MinOil Contract Model

Appendix 2, Page 2

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Figs. In $Mn
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	10	11	12	13	14	15	
	NCF	Cum.Rev.	Cum. Cost	R. Factor	DCF(10%)	DCF (20%)	
1	-	-	600	-	-545	-500	
2			1,200	-	-496	-417	
3			1,700	-	-376	-289	
4	913	913	1,855	0.49	624	440	
5	1,079	1,990	1,943	1.02	670	434	
6	148	2,136	2,053	1.04	84	50	
7	178	2,312	2,193	1.05	91	50	
8	178	2,488	2,333	1.07	83	41	
9	178	2,664	2,473	1.08	75	34	
10	178	2,840	2,613	1.08	69	29	
11	171	3,009	2,748	1.09	60	23	
12	163	3,170	2,877	1.10	52	18	
13	156	3,324	3,001	1.11	45	15	
14	148	3,471	3,119	1.11	39	12	
15	143	3,612	3,233	1.12	34	9	
16	106	3,717	3,312	1.12	23	6	
17	101	3,816	3,387	1.13	20	5	
18	94	3,909	3,457	1.13	17	4	
19	89	3,996	3,523	1.13	15	3	
20	84	4,078	3,585	1.14	12	2	
Total					596	-31	

10 - Net Cash Flow (IOCs entitlement).

11 - Cumulative Revenue.

12 - Cumulative cost.

13 - R. factor, averaging (1.0-1.25), hence , the average remuneration is equal to \$1.6/B plus or minus \$0.1/B.

14- Discounted cash flow at 10% rate.

15 - Discounted cash flow at 20% rate. From 14 and 15, the (IRR) is found to be about (19%).

Whither Goes Iraq's Economic Policy?

Fadhil A. Mahdi*



(I) <u>Main Factors Underlying Economic Policy</u> - Since 2003, policies for Iraq's economy were determined by a multitude of factors and historical legacies. Some of these have been: (1) the accentuation of the "rentier" features of Iraq's oil economy; (2) consumers' pent-up demand for durables and other imported products; (3) the rising role of commercial interests following the decision of the Occupation Authority in 2003 to open the closed Iraqi market to global trade; (4) strong expectations for a quick rise in living standards; (5) socio-political pressures of high rates of unemployment/widespread poverty; (6) the legacy of a highly corrupt and inefficient public administration that expanded disproportionately with need. And, finally, (7) the economic policy impact of a governance process based upon political power sharing.

Some of those salient factors will be addressed in our analysis.

(II) <u>Context:</u> With no reliable population census figures since 1987¹, population appears to have grown rapidly despite the impact of wars and migration. Refugees are no less than 1.428 million² (not including the waves of migrants). Yet, the official population growth rate is about 3.1% between 1947 and 2009³. Such a high rate indicates weaknesses in Iraq's official demographic statistics that set the population number at 31.7 million for 2009. Despite professional doubts about this rate, it

* Dr. Mahdi is an international development consultant based in Toronto. He has worked for the Iraq National Oil Company and the Iraqi Ministries of Oil and Planning., as well as working as the Inter-regional Adviser in Development Planning for the UN Secretariat in New York and Chief of the Economic Analysis Division, UN/ESCWA. Email: fadhilmahdi@gmail.com

1 Although the last population Census was undertaken in 1997, it excluded the population of the Provinces of Dohuk, Sulaimaniya and Irbil.

2 The United Nations High Commission for Refugees estimated total Iraqi refugees and people in refugee-like situations at 1.428 million by end 2011 while it estimated the total number of internally displaced persons (IDP) protected by UNHCR, including people in IDP like situations at another 1.332 million (UNHCR- Global Trends, 2011, Table 2, p.43). Despite the reported return to Iraq of more than half a million Iraqis between 2003 – 2011 (Ibid -p.18), those figures do not appear to include those who left the country by other means due to insecurity.

3 Ali Merza – "Adad Al-Amalieen fi Al-Dawlah wa Muaddal Al-Batalah wa-al-Numo Al-Sukkani – Tasaulat ila Wazarat Al-Takhteet"/Central Statistical Organization . Published in www.iraqieconomist.com Table (1)

is evident that the enormous post-August 1991 impact of sanctions on Iraq's infrastructure, both economic and social, has been serious and that Iraq's resident population is poorly serviced.

After more than nine years of transition, major cities such as Baghdad, Basrah, Mosul plus other major urban centres suffer stress from over-crowding while major cities within the Kurdistan Regional Government's (KRG) writ are flourishing. The latter is mainly due to stability, devolution of authority and a relatively disproportionate 17 % share of public expenditure allocated to the KRG region. That share compares with a 12.6% population share for that region⁴. Prosperity and stability have had a virtuous-circle effect on development there with professionals and investors migrating thereto while insecurity elsewhere has generated a "vicious circle" effect.

Iraq's urban population is about 66 % - 67% of total. The bulk of population outside the KRG's writ continues to be poorly serviced by public electricity networks, sanitation, solid waste disposal and sewage systems. Meanwhile, high birth rates combined with significant rates of mortality and morbidity have generated a youthful population pyramid. Youth have rising expectations for affordable housing and jobs. Yet, the housing stock was in disrepair during the lost decades of war and sanctions. With the aforementioned massive internal displacement of population and with serious security issues, urban housing is even more unaffordable in the safer and better serviced districts. In rural Misan Province, 49 % of households reported over-crowded housing during the first quarter of 2011 while approximately a quarter of households in rural Thi Qar, Najaf, Qadissiya, Kirkuk and Ninewa Provinces reported similar conditions⁵. Inadequate mortgage finance keeps housing development and purchase highly skewed towards the well to do and government employees with access to mortgages.

Public education and health services remain inadequate and of sub-standard quality as public sector incomes for professionals were eroded between 1980 - 2003. Declining real incomes had taken a heavy toll on the supply and quality of medical and educational staff. Particularly pervasive has been the damaging impact of hyper-inflation⁶ and rising corruption on morale and ethics. And despite improved salaries since 2003, turbulence, instability and corruption have ensured that no great progress in service delivery would be attained. This is particularly the case in electricity where 79% of questioned Iraqi households reported this service as either "bad" or "very bad" during 2011's first quarter when the public electricity network provided a daily average of 7.6 hours only and that during the off-peak demand winter season.⁷ On the other hand, and despite violence pushing critical medical personnel into migration, the "average household is just over 20 minutes away from the health facility they go to when a family member is ill. This is slightly higher at over half an hour (32 minutes) among rural households."⁸ However, such proximity is undermined by a reported inadequacy in equipment indicated by 38 % of households. Shortages of doctors, and especially female staff were also indicated by 29 % of households.⁹

Significant income differentials with the outside world have invariably induced young doctors to leave accentuating a trend that has prevailed over 4-5 decades. Consequently, large numbers of medical professionals are to be found in the USA, UK, Canada, Australia, New Zealand, Ireland, the Gulf region, Jordan and elsewhere while Iraq's medical services suffer the deleterious quality implications of attrition. With Governmental priorities focusing on security, limited resources have been made available for improving working conditions of critical health personnel. In the 2012 Budget, the Health and Environment sector is allocated 5.74 trillion Dinars while the Ministries of Defense and the Interior got 17.172 trillion constituting 4.9 % and 14.7% of total programmed expenditure, respectively.¹⁰ The Supplementary Budget currently proposed to Parliament entails an additional 10.875 trillion Dinars. It is reported that new government jobs being proposed here will add an additional 40,000 jobs of which 24,000 are for the two security Ministries .¹¹ Thus, greater disguised unemployment will ensue instead of rationalizing expenditure.

⁴ http://www.mof.gov.iq/pageviewer.aspx?id=71

⁵ Those results are based on a sample survey of 28,875 Iraqi households collected by the Iraqi Knowledge Network (the IKN Survey) undertaken by COSIT (see www.cosit.gov.iq/english/pdf/2011/Services Factsheet-English.pdf) page 3 of 3.

⁶ Between 1990 and 1995, the annual average rate of inflation was 235 % (Computed from www.cosit.gov.iq) Consumer Price Index data. 7 COSIT - The IKN Survey, op. cit. page 1 of 3

⁸ Ibid, page 2 of 3

⁹ Ibid

¹⁰ Law No. (22) for 2012 Qanoon Al-Muwazanah Al-Ittihadiyya Li-Jumhouriyyat Al-Iraq Lil-Sana Al-Maliyya 2012 www.mof.gov.iq

¹¹ Ali Abid Salman- Al-Maliyya Al-Niyabiyya: Takhsees 40 Alf daraja watheefiyya Dhimn Al-Muwazanah Al-Takmeeliyya. http://www.burathanews.com/news_article_164552.html downloaded 29 July 2012.



Inadequate public school building keeps significant segments of the target population poorly serviced. On the other hand, higher education is expanding in response to public demand coupled with poor planning. While high education is stressed, the much needed vocational and technical training is under-emphasized. The commonly held perception here is that university degrees can secure the much coveted public employment and privileges.

In rural areas, economic activity continues being negatively impacted by severe competition from freely imported agricultural products. Water scarcity and salinity are increasing as Turkey and Syria dam the Tigris and Euphrates and their tributaries. Accordingly, a salient historical trend that linked agriculture to development has been ruptured. With 2007=100, the index number for the volume of agricultural output declined from 103.2 in 2003 to 84.1 in 2008.¹² Additionally, desertification and mine fields in Iraq's borders have been encroaching on fertile soils reducing future agricultural output capacities. In the Shatt Al-Arab environs, diversions and reduced water supplies from the Karkha and Karoun rivers coming from Iran have also increased salinity in Shatt Al-Arab undermining soil fertility and output in Basrah Province's agriculture.¹³

Economic development was structurally undermined as industrialization during the 1950-80 period was reversed by wars and sanctions. Industrial decline accelerated in the 1990s and beyond as sanctions hindered the import of spare parts and other inputs. With 1988=100, the General Index for the Volume of Manufacturing Output had declined to 69.3 in 1999. By 2003, it had been reduced to 47.1 and by 2006 it was merely 40.¹⁴ With this decline of industry as well, the economy was transformed into one that is reliant on both the import trade and the export of crude oil. With heavy reliance on oil that is coupled with a declining agriculture and shrinking industry, the economic locomotive of Iraq's economy became the Government's annual Budget. There, the bulk of budgetary revenues from oil are financing public expenditure programs have been invariably tilted towards consumption at the expense of public investment. The 2012 Budget, approved earlier in the year, programmed a total expenditure of 117.123 trillion Iraqi Dinars of which 31.7 % or 37.179 trillion is for investment projects and 79.954 trillion for operational expenditure. Hence, as oil is depleted, limited efforts are made to ensure the sustainability of future development.

12 COSIT. Obtained by Author during visit to COSIT in March 2012.

13 Hasan Al-Janabi – "Al-Reef Al-Iraqi – Shuroot Al-Hayat Al-Kareema:" Shatt Al-Arab Namoothajan" –Published in Al-Thaqafa Al- Jadeeda, No. 350, 2012, pp. 56-62

14 Ibid

(III) Public Budget and Vulnerability to Oil Price Swings Affect Resource Allocation: Coalition- politics and power sharing enhance the significance of the Federal Budget for economic policy. Despite the urgent need for reconstruction in many sectors, processes of Budget preparation and approval entail an in-built competitive race for public resources. There, and despite a slightly rising share of allocations to public investment over time, macro-Budgetary allocations were politically skewed towards consumption. Such a tilt emanates, largely, from the impact of distributing Ministerial and other public service sinecures between the coalescing political parties. The latter need state resources to create jobs for potential followers. Accordingly, the inter-action of power-sharing with budgetary allocations has created a myopic, and politically motivated competitive race for public resources.

With no serious strategy to guide future development programs and policies, expediency and short-termism in economic policy were accentuated at the expense of reconstruction and investment in capacity expansion. Post- 2003, high unemployment was prevalent. With widespread unemployment, political leverage became a function of the ability to offer state jobs rather than through sounder more indirect policies that promote investment and employment in the nascent private sector. Salient examples here are decisions taken in 2011 and again in mid-2012 to postpone implementation of Law # 22 of 2010 which introduced tariffs.¹⁵

Depletible oil resources were largely used to expand disguised unemployment in Government exacerbating inefficiency. Disguised unemployment retards economic diversification and is a major impediment to real development. Over-employment is diverting potential investible surpluses into unproductive public consumption.

As oil renterism was accentuated, fiscal allocations became the major determinant of decisions on economic and social policy. A "political business cycle"¹⁶ has emerged to influence trends in fiscal resource allocation. Here, the political Leit motif rather than rational economic calculation in the neo-classical economic sense is the underlying process used to set over-ambitious targets for increasing state resources. Those resources are predominantly generated by increasing the output of oil instead of maximizing other sources of state income. Those targets for oil were set at 12 million barrels of crude oil per day for 2017 though a more realistic assessment predicts that investment bottlenecks would more likely hamper that target's realization.

The "political" motive underlying those over-ambitious oil targets is both national and sub-national. On the one hand, there appears to be a naive expectation that the higher are the exports of oil, the greater will government oil revenues be. Indeed, it appears that policy makers, uninitiated in economic analysis and/or unwilling to seek professional economic advice, tend to think linearly when it comes to the relationship between oil output and revenues. Linear thinking, plus pressure from politicians, interest groups and foreign parties, have motivated political players to compete in trying to maximize the output of oil instead of cooperating to conserve Iraq's limited oil resources. This competitive approach leads to a state of conflict rather than cooperation between the Federal Government and the (KRG) in formulating coherent oil policies for both. Coordination and cooperation will more probably assist both to maximize oil revenues and oil extraction from depletible fields through the pursuit of sound oil field management practices and by restricting oil supply to the international market.

Policy making in oil is also insufficiently imbued with an economic understanding of the international oil market and the impact of the laws of supply and demand. The Ministry of Oil had long lost its more capable economic team and is now dominated by engineers with little training in economics. While engineers are better suited than economists in implementing projects for development and in operating oil fields, those same engineers need sound economic advice on the optimal strategic thrust for developing the oil sector as a whole. A combined multi-disciplinary team of capable economists and engineers is required for that and such a team was not built.

¹⁵ For more on tariffs, see Fadhil Abbass Mahdi – "Fi Al-Jadal Al- Dai'r Hawla Qanoon Al-Ta'rifa Al-Jumrugiyya wa- Ta'jeel Al-Amal Bihi" (2012). Published in www.iraqieconomist.net

¹⁶ The concept of the "political business cycle" is attributed to Kalecki who coined it in 1943. See Michal Kalecki – "Political Aspects of Full Employment", Political Quarterly, Vol. 14. This article was later reprinted in E.K. Hunt and J.G. Schwartz (eds.) A Critique of Economic Theory (Penguin, Harmondsworth, 1972).



Decisions were already taken to expand oil output rapidly and greater oil revenues will be generated. Those revenues will initially increase over time though under a sub-optimal economic trajectory. With that expected increase in revenues, resources for future Federal Budgets over two to three decades may increase significantly though sub-optimally as increased supplies may also depress oil prices. Under Iraq's "political business cycle", increasing public revenues in this manner will push economic policy into an inflationary/ deflationary see-saw.

Under that cyclical see-saw, and during the initial phases of rising oil revenues, resource allocation to both public consumption and investment will rise concurrently. However, when increased supplies of oil induce oil export revenues to shrink, as they precipitously did by 37% during 2009,¹⁷ prioritization and budgetary cuts will have to be implemented. So long as widespread unemployment prevails, investment will be axed first while sparing the "politically critical" expenditure on public employment and consumption. Under widespread unemployment, the "political business cycle" will yield public employment and consumption levels that are "sticky downwards and flexible upwards" with the Budget remaining the main tool influencing aggregate demand and the relevant "stop-go" swings.

Over the next decade or more, Iraqi economic policy will remain captive to the fortunes of the oil sector. In the short run, net oil export revenues, which are the core of budgetary receipts after the deduction of 5% for war reparations by the Development Fund for Iraq (DFI), will be determined by oil export volumes, sectoral bottlenecks, capacity expansion, world oil prices and costs of production and transportation inside Iraq. Prices and the Budget itself will be affected by the global supply and demand for oil and its competing energy alternatives. Iraq's ambitious thrust in expanding output¹⁸ may yield greater net oil revenues but not necessarily higher oil prices per barrel. So long as an overall development strategy is missing and with no consensus on economic diversification, dependence on oil will remain strong in the short run and Iraq's emergence into a less lop-sided economic structure will be longer than necessary.

Under such a perspective, the Federal Budget will remain vulnerable to the impact of speculative activity in oil. With the global financial sector increasingly dealing in futures trading in oil and other commodities, oil and other commodity price swings have tended to be exacerbated. Oil price volatility and other risks for oil exporters are being magnified. Under such conditions, the Federal Budget will be vulnerable to the deleterious impacts of those swings. This will be the case so long as economic diversification is under-emphasized. The lack of a long-term development strategy and vision, as well as poorly conceived policies, allow political expediency to dominate over processes that set economic and fiscal priorities.

17 Computed from http://www.cbi.iq/documents/bop.pdf

¹⁸ That ambitiousness was alluded to in Thamir A. Ghadhban – "Iraqi Crude Oil Production Capacity: The Way Ahead". MEES Energy and Geopolitical Risk, Vol. I, January 2010, pp 9-14.

Strategy Of The Iraqi Oil Industry Part-1: Exploration

Thamir Uqaili*



Preamble

The history of the Iraqi oil industry is characterised by three eras. This article, part of a larger study, discusses the main issues of hydrocarbon exploration in Iraq, including the role of the Oil Exploration Company (OEC) of the Ministry of Oil (MoO).

Hundreds of oil professionals spent years working in Iraqi fields and refineries obtaining experience that ought to be utilised in re-shaping a new strategy for Iraq's oil sector. With that in mind, the author who spent over 40 years working in Iraq attempts to utilize the learnt lessons to propose a new approach to reshape the Iraqi oil sector.

The main priority of the oil industry until the fall of Baghdad (2003) was the upstream operations. Refining and products distribution, while meeting domestic requirements, had a second priority. Gas gathering, processing and utilization as part of downstream operations generally lagged behind.

^{*} Dr. Thamir Uqaili worked as a petroleum engineer in the Iraq Petroleum Company (IPC) and the Basra Petroleum Company (BPC). He also served as Head of Petroleum Engineering in the South Oil Company (SOC), and Fields' General Manager in the North Petroleum Company (NPC). Dr. Uqaili is Technical Adviser to the Iraq Energy Institute (IEI) and Senior Associate of the Center for Global Energy Studies (CGES).

1- Pre-nationalisation Era (IPC and Affiliated Companies) This era is characterised by:

- IPC policy and strategy to develop light and less-costly oil with no interest in medium, heavy oil and gas. Oil quality of the order of (32 plus) API was the target. The result of this objective was to avoid development of the great reserves of Mishrif, Upper Shale Member, Maudud, Lower Fars reservoirs, in addition to large reserves of Qaiyara Complex; as well as the North Rumaila Sector.
- Some influence of the Ministry of Oil on IPC to carry out reservoir monitoring applying simulation and practicing conservation laws
- No interest in gas gathering and utilisation
- Very modest exploration attempts characterised by inefficient well testing during drilling, under pressure from the ministry of Oil and its monitoring via Law of Conservation of Energy (currently frozen)

2- Iraq National Oil Company Era (INOC) Era (1964- early 70s-1987)

This era is characterised by the national contribution of INOC especially after the nationalisation of IPC & Affiliates resulting into:

- Expanded and daring exploration activities that resulted in delineation of existing fields and introducing over 32 new discoveries including giant and large fields
- Intensive reservoir monitoring and application of water injection in Kirkuk and Rumaila Fields
- Expansion of the gathering, transportation and export facilities with production increasing to reach 3.5 million b/d:
 - o North Rumaila Project
 - o The Basra-Kirkuk 42in Strategic Pipeline
 - o The Iraq Turkish export pipeline and its expansion via a second line
 - o IPSA pipeline
 - o New tank farms and products depots
 - o Basra Export (ex-Bakir) Terminal
- Development of the vast reserves of the Mishrif, thus production of medium heavy 22API crude and targeting the light crude oil of Yamama (Potential 850,000 b/d from the southern fields)
- Execution of the north and south gas projects with combined processing capacity of about 1500 million standard cubic feet per day (mnscfd). This is in addition to a 250,000 cubic meters (cum) underground storage project in the salt formation of Kirkuk Field
- Expansion of the refining capacity by adding Baiji Complex and Basra Refinery to 750,000 b/d that included production of gasoline of 98 Octane.
- Construction of Baghdad- Zubair Products Pipeline, Ministry of Oil (MoO)

PART 1: EXPLORATION

1- Background

Oil Exploration Company 'OEC', central organisation of INOC then MoO post 1987, has been responsible for the exploration activities:

- a- Seismic and other types of field data acquisition
- b- Issuing regional geological and specific geological studies
- c- Defining location coordinates of exploration and appraisal well sites
- d- Coordinating with the drilling departments regarding testing prospective horizons in the exploration wells.
- e- Appraisal of new discoveries and estimating/ updating of geological and recoverable reserves.
- f- Training employees to improve skills.

OEC played an important role in the discovery of the many fields that are known today in addition to delineation of the major fields of Rumaila, Zubair, Kirkuk and East Baghdad. Unfortunately, it never recovered from the setback it had since the first Gulf War and later the fall of Baghdad in April 2003. The role of the MoO has so far shunned exploration, focusing mainly on exploiting the major brown fields plus some of the large green fields.

2- Pre-April 2003

OEC started its activities in the early 70s in association with some seismic contractors mainly soviet and Romanian Crews. With time, new 2D seismic was acquired. The main activity areas were:

- a- Western Desert and part of the Jezira area
- b- Central and north central Iraq
- c- Southern part of Iraq
- d- Part of North Iraq (currently Kurdistan)

During three strategic plans of 1975, 1984 and 1990 the following was achieved:

Km seismic surveys	180,000
Number of Leads and Structures covered by seismic	422*
Leads/ structure drilled first time	63
Leads/ structures re-drilled	31
Extra proven reserves added to old 34 billion barrels	67
*Total recognised number of leads/structures	530

In 1991, an aggressive exploration strategy was prepared by OEC that outlined detailed exposure of hydrocarbon prospects of Iraq. That aggressive strategy however did not achieve much due to the tough years of UN Sanctions following the Iraqi invasion of Kuwait and the first Gulf War. The size of the exploration activities in 1991 strategy will overshadow any future plans to assess the hydrocarbon potential of Iraq.

2.1: 1991 Oil Strategy

In October 1991 OEC adopted and defined a strategy with the following objectives:

- a- Completion of appraisal of the giant and large fields in south and central Iraq aiming at expanded development
- b- Expedite appraisal of the medium sized fields near the transportation and export networks, that contains light and medium quality oil
- c- Addition of more proven reserves

The work plan had two targets:

<u>Target-1</u>

- Observe the balance of substitution of the produced oil by the added reserves in the coming years, assuming production of 6 million b/d by mid 90s. The added proven reserve, of 2.2 billion barrels per year, was to be obtained from high probability areas of Iraq containing new reservoirs or fields of Tertiary and Cretaceous age:
 - a- The Long Term Plan targeted 106 billion barrels from discovered undeveloped reservoirs and 96 well selected sites of undrilled 239 leads/ structure.
 - b- Statistical analysis of available data that at the time estimated the of size new discoveries at 125 million barrels per field
 - c- Light oil and condensate were to be found at shallow depth in North Iraq and deep formations in the South

d- Sixty exploration and appraisal wells were needed every year

A total of 70 Crew-year was required to carry out 91,000 line-km of Seismic data acquisition

<u>Target-2</u>

Confirming the new reserves in the following:

- a- Deep targets in the Paleozoic Formations
- b- Stratigraphic leads
- c- Western Desert covering 150 seismic leads

The plan:

- a- Based on two regional studies carried out in 1989-1990 foresaw covering 20,000 km of the Paleozoic prospecting
- b- Covering stratigraphic traps by 49,000 km seismic lines
- c- Priority was given to large structures especially Akkaz, Anbar, al-Hadhar and Tabuk (in addition to 22 leads)

In summary, the strategy required:

Surface Geology	Crew	Seismic Crew	Drilling rigs
Target-1	2	7	35
Target-2	-	4	5
Total	2	11	40

2.2: Gas Strategy

Free gas reserves were estimated at 32 trillion cubic feet (TCF) of proven reserves (P1) and 61TCF of probable reserves (P2). Four areas of exploration were cited:

- 1- N Eastern Iraq for Tertiary objectives
- 2- Western Iraq border areas with Syria and Jordan
- 3- W Desert Paleozoic targets
- 4- Southern Iraq deep prospects

a- Priorities were given to the following:

Discovered Fields: Kormor, Khasm el Ahmer, Tel Ghazal. Chemchemal, Jeria Pika High probability leads: Qasir Karam, Sirwan, Al l'dhaim, East Jambur, Hattab, Battan and Habeeb

b- Thirteen rigs and four Seismic Crews were required to explore and appraise the gas prospects

3- Post -April 2003

The efforts of the MoO during 2003- 2008 were focused on recovering lost production from the southern fields. The year 2009 saw the breakthrough in awarding major producing and discovered fields to IOCs. Since then OEC gradually started to increase its activities that are still way below the level of the vast requirements of the old 1991 strategy.

A- Author's contribution

The following is a contribution by the Author(1) that was sent to OEC on 5May, 2010:

"The adopted strategy in Iraq has always been that Exploration leads field development so that:

- Proven reserves are updated continuously
- Enough margin of proven reserves is left to the upstream planners and executors to turn them into actual hydrocarbon production and lengthen the national plateau period 'NPP'



Exploration in Iraq however, suffered tremendous setbacks during the Iraq-Iran war and later since the first Gulf War. It has even ceased entirely since 2003. As a result, many delayed tasks require immediate attention. The outcome of an organised exploration campaign in the next five to ten years will result in adding large proven oil and gas reserves. The effect will be a further support for Iraq to become a major producer.

Iraq's exploration strategy needs to target the following:

- 1- Convert at least 50 billion Barrels of the current Possible/Probable (P2/P3) reserves into Proven Reserve P1
- 2- Updating reserve estimate of the W Desert by executing further seismic surveys and drilling new exploration wells. The main target is the Palaeozoic reservoirs
- 3- Updating reserve estimate of the Jezira Area (S Mosul-Euphrates River) by executing further seismic surveys, working over some of the old exploration wells and drilling new exploration wells. The main target is the Triassic & Jurassic reservoirs.
- 4- Assessment of the fields and potential structures of Dyala Basin
- 5- Delineation and Exploration of the deep reservoirs in South Iraq. Yamama, Najmah, Mus/Adaiya and Khuff (Chia Zeri).
- 6- Evaluation of the heavy oil reserves of South Iraq (Lower Fars. Ghar and Maudud)
- 7- Delineation and assessment of the Border Fields
- 3.1- Target -1: Upgrade Proven Reserves
- a- Detailed seismic in awarded producing fields (Contracts with awarded IOCs):

Bids Round-1, 2 and 3 have fields with producing reservoirs that have had almost no reservoir management in over 20 years especially the 3rd Pay and the Mishrif. There are major production problems caused by insufficient water injection and long years of absence of monitoring.

New reservoirs discovered since the mid 80's are either partially produced or not yet tied in. The reservoirs require detailed 3D seismic to delineate them to update the reserves and provide the ground for hydrocarbon exploitation under well planned reservoir management.

b- Detailed seismic in the fields left with the National Operators of the Ministry of Oil: The above argument in 'a' is applied to the fields left with SOC, MOC and NOC in addition to the other undeveloped fields of Iraq, some of which will be under Mid Oil Co or other new upstream companies 3.2- Target 2: Reserves of the W Desert

a- A study to understand the source rock distribution and oil migration in and from Jurassic and Cretaceous of South Iraq and Western Desert is needed. That should include a fresh look to the drilling/ testing results of the old wells drilled around and in the W Desert, in addition to some work over operations in selected old wells some of which may include re-entry

b- New Seismic technique is definitely needed if not in all the W Desert but at least in selected Blocks

c- Selected Large leads in the W Desert need to be chosen for exploration drilling targeting the Palaeozoic.

3.3- Target 3: Reserves of the Jezira Area

Several discoveries were made by IPC in 1961 while few wells were badly tested. A re-evaluation of the prospects of Jezira Region is needed. That should include the following:

a- New Seismic, if not in all the Jezira Area, then at least in selected Areas/ Blocks

b- Selected Large leads need to be chosen for exploration drilling targeting the Triassic Kura Chine.

c- Work over operations in selected old wells, some of which may include re-entry

One main Prospect of Underground Storage for LPG and selected products was investigated in Tel Ghazal Structure by drilling several wells. The project stopped short of completing the investigation. The project needs to be re-activated.

A revision of the size of the Exploration Blocks in Iraq (Figure-1) including Jezira Area is recommended.

3.4- Target 4: Selected Seismic Leads

Exploration drilling in selected leads, within the 65 Blocks but outside Jezira and W Desert, is recommended.

3.5- Target 5: Reserves of Dyala Province

The discovered but not yet developed fields in Dyala Province require new assessment that may include detailed seismic and appraisal drilling.

3.6- Target 6: Deep Exploration

New exploration and appraisal drilling is needed in many fields to assess deep formations such as Yamama, Najma , Mus/Adaiya and Khuff, mostly in South Iraq.

3.7- Target 7: Heavy Oil Reserves

Lower Fars, Ghar and Maudud reservoirs contain appreciable reserves of heavy oil with API ranging between 11 and 19. Some of the wells in Zubair and Rumaila Fields were logged in the shallow horizons during drilling in the late 50's but very little is known about the heavy oil in South Iraq. A Regional study of the potential of the three reservoirs is needed. New drilling should include testing in these reservoirs especially in Southern Fields near the Border with Kuwait. Kuwait tried Huff and Buff in 3-wells Pilot in the early 80's but no commercial project seemed to have so far materialised.

3.8- Target 8: Border Fields

Most of the fields/ structures are near or at the Border with Iran with few bordering Kuwait, Syria and Jordan. The appraisal/delineation of the majority of the drilled fields, is not complete while some of the leads are not drilled yet.

3.9- 2011-2015 Five Year Plan

The five year work program requires close examination of the requirements according to the following:

Number of Seismic Crews

A preliminary proposal for the five year plan may include increase of Seismic Crews of OEC and other requirements to enable aggressive exploration work plans:

- a- Crews
- 2010: currently three 3D Crews to be increased to 4 by end 2010 or Q1/ 2011
- 2011: Add two more 2D Crews
- 2012: Add two more 3D Seismic Crews
- 2013: Add 3 more Seismic Crews

b- Processing and Interpretation

- Expansion and upgrade of the present OEC facilities is due. Here the proposed JV can serve part of the following needs:
- c- Fields equipment
- d- Trucks and vehicles
- e- Camps
- f- Laboratories
- g- Recruitment
- h- CAPEX and OPEX
- i- Sources of Investment/ Funds
- Funds shortage many be covered by internal financing and signature bonuses out of the Exploration Contracts

3.10- 2011 Annual Plan

- The second half of 2010 and 2011 should aim at carrying out detailed seismic for at least three awarded PDSCs in South of Iraq in addition to some work in the W Desert. If OEC facilities are short of complete command on all the work then a JV with a reputable Seismic Company is proposed.
- Contacts regarding the JV should be started soonest. Such a venture should include training of personnel to provide necessary skills to accommodate the anticipated scope of work.

3.11- Agreements and contracts

OEC would coordinate with Petroleum Contracts & Licensing Directorate 'PCLD' of MoO to prepare suitable forms of agreements/ contracts as:

- Exploration Contracts
- Exploration and Development Contracts
- Exploration, Development and Production Contracts
- Lab studies specifically Geochemical, source rock evaluation in particular
- In parallel and for Exploration purposes, OEC would prepare draft contracts for possible signature with contractors and well service companies operating in the following domains:
 - Seismic Prospecting
 - Drilling and Work Over
 - Processing and Interpretation
 - Well Service Companies
 - Lab studies and its associated equipment
 - Training.
- The justification for OEC to take the lead in organising the above mentioned contracts are:
 - Exploration to serve a different long term objective, not like immediate demands for field development and production. Hence, it is to be directed in line with the country's exploration strategy
 IDC will be too busy in development drilling to take extra load resulting for exploration
- For successful bid rounds, lessons from Bid Round-4 should be taken into consideration seriously by MoO. Exploration, different from contracting for a discovered field as in Bid Rounds-1,2 and 3, needs to have sweetened contracting terms covering:
- a- Linkage of the "RF" with rate of production in case of a discovery by assigning inversely proportional RF values to forecasted production capacity
- b- Induce an incentive factor in case of discovery
- c- Clarity of utilisation/ export of the discovered oil and gas in a manner that enables the awarded side timely development of the discovery
- d- Giving priority to the unsuccessful awardee, in case of no-discovery to enter into negotiation to sign



for a reasonable size-discovery that has not been included in the current development plans of MoO'

B: Current OEC Plan

It is important to note that OEC has a detailed map showing all the 530 seismic leads in Iraq. Figure 1 shows selected 65 Blocks that were planned for exploration. Those blocks were the basis for choice of the 12 blocks of Bid Round-4 (Figure 1A).

In a recent conference in Basra (November 2011) OEC presented a paper showing the current plan/ exploration outlook (note 2):

1- EOC had three seismic crews that did 3D field data acquisition in Gharraf, Nasiriya, Badra and Akkaz fields. ApProcessing and interpretation center was reported to have been working with modern software to interpret new 2D seismic data

2- An area of 42000 km2 (Figure-2) has been allocated for coverage by national effort (OEC)

3- Execution of seismic surveys and drilling exploration wells in the fields still with the four National Operators (No timing was reported):

- a. SOC: Ratawi, Tuba, Ľuhais, Śuba, N Umer, Rafidain and Kushk el Basry (Block)
- b. MOC Fields: Halfaya, Noor, Amara, Kumait, Refai and E Rafidain
- c. NOC: Ismail, Ajeel, Qasab and Jawan
- d. MDOC: W Desert- Tulol Safa, Anbar, Rutbah, Extension of Risha Field
- 4- Plan to drill 12 exploration wells. Locations have been identified but no timing was proposed:
- a. Four wells in the W Desert targeting Khabour and Khuff Formations
- b. Two wells in northern Iraq targeting Dhiban, Jeribe and Euphrates
- c. Six wells in south Iraq targeting Upper Jurassic and Lower Cretaceous

4: Conclusions

The current OEC plan, though important, represents a modest portion of the requirements of strategies covered in this article. Current plan and intentions are short of Long Term pre-requisites of allocating time, money and facilities; not forgetting the need for aggressive policy towards:

a- Reactivation of previous proposals for exploration strategy and defining a Long-Term Plan to serve as backbone to 5- year plans

- b- Employing experience personnel and making use of ex-Iraqi experts
- c- Upgrade and expand current OEC Crews
- d- Making available the required logistics

e- Carry out seismic exploration with selective wildcat wells before announcing further exploration blocks

- Note 1:
- A-Prepared by Dr Thamir Uqaili on 5 May 2010 in support to an Official Exploration Strategy in line with the request of Mr Karim Hattab. The original document has been updated for the purpose of this article
- B-Guidelines needs to be discussed with senior OEC personnel including Field's Work Group. Any important remaining unfinished work form the last 5-yr plan may have to be incorporated

- Note2:

Review of Iraq Hydrocarbon exploration activities/ past, present and future. Paper by OEC during 2nd Basra International Oil and Gas Conference and Exhibition, November 25-28/ 2011







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