THE POLITICAL ECONOMY OF PIPELINES IN CENTRAL ASIA

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MASTER OF PHILOSOPHY

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CERTIFICATE

This is to certify that the dissertation titled **"The Political Economy of Pipelines in Central Asia"**, submitted by **Solgy Jose T. Kottaram** in partial fulfillment of the requirements for the award of the degree of **Master of Philosophy**, is his own work and has not been previously submitted for degree of this or any other university.

We recommend that this dissertation be placed before the examiners for evaluation.

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PREFACE

One important consequence of the demise of the Soviet Union was the rise of intense political and commercial competition for control of the vast energy resources of the newly independent and vulnerable states of the Caucasus and Central Asia. The geologists have estimated the total oil deposits of the Caspian sea bed, Kazakhstan, Turkmenistan and Uzbekistan to be worth some where between $2.5 and $3.5 trillion at today's market price. The deposits of this area may not be quantitatively comparable to the deposits of the Persian Gulf, but they are still considered to be of excellent quality and are, therefore, viewed as a significant source of untapped energy. The Central Asian Republics have been undergoing economic crises during their process of transition. With their current low level of production and poor infrastructure these countries are in dire need of foreign capital as well as modern technology to exploit their buried natural resources. Further complicating their plans all these new republics are landlocked forcing them to find alternative ways and means to reach consumer markets. By some accounts they need something like $50-$70 billion of foreign investment in the coming decades to enable them to extract and transport oil through elaborate pipelines to energy hungry markets in Europe and Asia.

Energy resources are reshaping the geopolitical map of Eurasia. Eventual control of the development of oil deposits as well as the pipeline routing will determine the political and economic future of Russia, Turkey and the Central Asian States; it will determine Iran's position in the region and its relations with the West; it will determine the realignment of the strategic triangle among the US, Russia and China, and it will have strategic consequences by lessening dependence on Persian Gulf oil. Central Asian oil is potentially important to India and

China and more to the United States, which consumes more energy than any other country in the world. But it is surely more important to Central Asia. To assess Central Asia's future, it is essential to understand the perceptions and roles of different actors-regional states and major powers.

While the Central Asian states are strong from the point of view of their oil potential, they are afflicted by infrastructure weakness leading to slow economic growth, and a high degree of international vulnerability. It is, therefore, ironic that the newly independent states, possessing higher than expected oil reserves, have experienced declining production levels against a background of poorly performing economies. It is also due to the difficulty in short-term capitalization on discovered reserves. Most of the oil producing countries of Central Asia plan at least to double their oil production during the next 5 to 10 years. The condition, capacity and configuration of the existing Russian controlled pipelines out of the region are inadequate for the significant increase in oil volumes being generated by the many projects that began after the dissolution of the Soviet Union. Pipelines are proposed to the constructed along the length and breadth of the region to carry oil to the outside market for export.

This study analyses the resource profile and development potential of Central Asian Countries. The main objective of the work has been to study the hydrocarbon deposits in Central Asia and the pipelines that are existing and also those which are proposed to be built. The study also analyzes the political and economic consequences of the pipelines and oil deposits. This dissertation focuses on:

(a) The hydrocarbon resources in Central Asia and their real potential to make a change in the global energy markets.

(b) Different pipelines and the problems and prospects of the proposed pipeline routes seeking to connect the hydrocarbon deposits to external markets and ports.

(c) A feasibility study of the main proposed pipelines and to examine their implications for the regional economy and polity.

(d) The effect of Central Asian oil resources and pipelines on the foreign policy of different nations towards this region and the plans of various external political players in the region.

The introductory chapter provides the resource profile of the Central Asian countries It also deals with the history of oil exploration in the Central Asian and Caspian regions. The second chapter while focusing on the pipelines in Central Asia, describes the technical aspects of transportation through pipelines. Major oil and natural gas pipelines that are existing or are coming up in the region have been discussed.

The third chapter gives an economic study of the pipelines. The cost and benefits of pipelines and the impact of pipelines on the economies of Turkmenistan and Kazakhstan are analysed . The fourth chapter deals with the strategies of external powers towards the region, with particular reference to the policies of the United States of America, Russia, China, Iran and Turkey in Central Asia. The fifth chapter rounds up the study, providing the conclusions.

In writing this dissertation, the most important contribution has been of my supervisor Prof. K. Warikoo. I received generous support from my parents and friends. I wish to express my gratitude to one and all who helped in the realisation of this work by the grace of God. I present it to my sister for the miles to go.

Solgy Jose T. Kottaram

CONTENTS

CHAPTER I

INTRODUCTION

Central Asia comprises the five newly independent states of former Soviet Union, viz. Kazakhstan, Uzbekistan, Kyrgyzstan, Turkmenistan and Tajikistan. These countries within the catchments of Caspian Sea contain noteworthy hydrocarbon reserves. Despite the changing configuration of empires in the region, significant population movement over time and the focus of activity around the Caspian Sea, Central Asia is not viewed as an integrated whole, but as a collection of isolated geographical fragments. Though there has been new emphasis on the development of Central Asian countries, it would not be quite possible without regional cooperation. All of them being landlocked, depend on other countries to transport oil and gas to world markets. Most of these republics are devoid of sufficient infrastructure, modern technology, appropriate expertise, consumer products and domestic markets[1]. Such a state of affairs does not fare well in a world where economic forces dominate international relations.

Even though Central Asia is predominantly Muslim, Islam is not viewed as an important political force in the area. Rather, the proposed constellation constitutes an economically viable assemblage of states with common development interests and an awareness of their potential for development synergy. Three inter-related bases for the development potential of the region may be identified- capital, transportation and economic reciprocity. Central Asia's plentiful oil and natural gas reserves

[1] R Hrair Dekmajian and Hovann H Simonian,*Troubled Waters: The Geopolitics of the Caspian Region*,I B Taurus, 2001, p.16

have made the region an increasingly important area for world energy supply and security. However, Central Asia's remoteness from world markets as well as its lack of infrastructure to export its oil and natural gas to customers outside the region has meant that much of Central Asia's energy is consumed internally. In addition, under the Soviet Union, much of the region was intertwined economically and the newly independent Central Asian states in many ways remain dependent on each other, especially for energy supplies. Thus, the Central Asian states face the dilemma of finding export outlets for their energy supplies at world market prices while also securing inexpensive energy from their neighbours for their own impoverished people[2].

With the collapse of the USSR in 1991, the Soviet republics of Central Asia became independent for the first time in their history. The Central Asian countries, whose centrally planned economies were heavily dependent on Soviet subsidies, were unprepared for independence and their national economies immediately went into a tailspin. The loss of markets and disrupted trading links that accompanied the collapse of Soviet Union had devastating effects on the Central Asian economies[3]. Economic and political reforms have proceeded slower in Central Asia than elsewhere in the Commonwealth of Independent States (CIS). Many political leaders in the region are former communists and autocratic decision-making is still prevalent. Each of the Central Asian countries remains economically tied to Russia and as a result, suffered substantial losses after Russia's August 1998 financial crisis. Since then, the countries of Central Asia have become more competitive economically and each country has experienced several years of

[2] *The Politics of oil in the Caucasus and Central Asia*, Adelphi Paper, 1996,p.9
[3] Nalin K Mahapatra, *Russia- Central Asia, A New Realignment*, World Focus, June 2002, p.12

growth. Kazakhstan and Turkmenistan, buoyed by oil and natural gas exports respectively, have experienced the largest real gross domestic product (GDP) increases. Although Russia still controls much of the region's oil and natural gas export routes, new export options are being developed and energy exports are likely to prove a major drive behind Central Asia's future economic growth. Construction of new transnational pipelines to transport oil and natural gas to the world markets is seen as the most important and viable option for the Central Asian countries.

Geopolitics

Central Asia is enclosed by the Caspian Sea in the West, Russia to the North, Mongolia to the North East, China in the East and Afghanistan to the North. In modern parlance, the region is a typical hinterland locked by different landmasses covering a vast territory of steppes, deserts and mountains that are larger than Western Europe and about half the size of the United States. The economic structure and geopolitical features of the region are greatly affected by geographical factors and its connection with other parts of the world. Landlocked in Inner Asia, the Central Asian countries face mutual challenges in gaining access to world markets. Transportation routes and corridors, both land and maritime, are key to link the world markets and the focal point of strategic concerns. Though Turkmenistan and Kazakhstan border the Caspian Sea, any cooperation and trade in the Caspian will not compensate for the lack of maritime access to the outside world.

From a geographical point of view, Central Asia has always been important as a strategic heartland in the middle of Eurasian continent

connecting West and East. According to Halford Mackinder's "Heartland" thesis propounded nearly a century ago, 'who rules East Europe commands the heartland; who rules the heartland commands the world island; who rules the world island commands the world'[4]. The 19th century Great Game had been based on competition for wider power and influence by asserting the control over the Central Asian region. However, by the end of 19th century, with technology increasingly capable of exploiting the reserves, oil emerged as a pivotal factor in the competition and the game intensified.

The geographical importance of Central Asia is due to the underlying hydrocarbon deposits and location between Europe and Asia. Even from early centuries, Central Asian steppes acted as a transit (in the Silk Route) and buffer between the West and the Orient. During the 19th and 20th Centuries, Central Asia was caught in the Great Game between the Russian and British Empire. The proximity of Central Asia to China, Russia and Afghanistan gives it immense geopolitical importance. It was always referred as a 'soft underbelly' of Russia. It also borders the vulnerable Xinjiang province of China and the strife-ridden territories of Afghanistan. The setting up of US military bases in Central Asian countries recently is being cautiously watched by Russia and China[5].

The transport of Central Asian oil and gas to consumer countries is a central issue in the region's geopolitics. Unlike the situation in the Persian Gulf, where every oil producing country has access to open seas, the landlocked nature of the Caspian makes its littoral states, Kazakhstan and Turkmenistan, dependent on adjacent countries for their trade and export of energy. The governments of these states and the multinational oil and gas

[4] H. Mackinder, The Geographical Pivot of History, *Geographical Journal*, Vol.20, No.4,(AP-1904), p.421
[5] R J Forbes, *Studies in Early Petroleum History*, E J Brill, 1958, p.63

companies have had to face difficult task of choosing the most appropriate pipeline routes for both short-term and 'early oil' and long term shipment of large quantities of hydrocarbon. The pipeline issue involves a plethora of players-producing states, major oil companies, transit countries, ethno-nationalist groups, regional and international powers. Financial, technical and strategic considerations further contribute to the complexity of this issue.

RESOURCE PROFILE OF CENTRAL ASIAN COUNTRIES

The primary factor that brought world attention to Central Asia was the prospect of large energy resources found in the region. In the hyped atmosphere of the post-Soviet years, when major oil companies were lured to the Caspian shores, there were no reliable estimates of oil and gas reserves. The growth of significant foreign investment in the region's oil and gas projects in the 1990s has been accompanied by raging controversies over the amount of energy wealth and the problems development. This controversy, which involved a plethora of statesmen and journalists, reached its zenith in 1997-98, in the midst of conflicting declarations and reports. The debate has been fuelled by the technical difficulties inherent in the process of estimating oil and gas deposits as well as by the geopolitical and economic motivations of regional and international players.

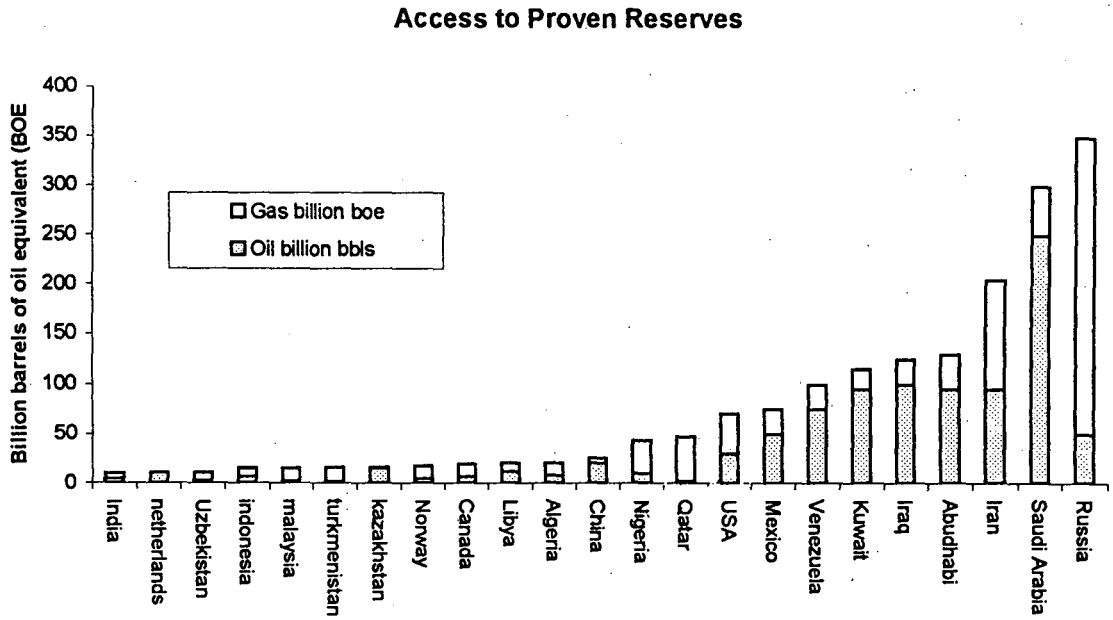
The conflicting reports were moderated by the publication of three credible studies in Central Asian energy between October 1997 and April 1998. The first study by Wood Mackenzie, a Scottish consulting company, revealed that the combined proven oil and gas reserves of Kazakhstan, Turkmenistan, Uzbekistan and Azerbaijan were 68 billion oil barrels

equivalent of this amount, the total for oil was 25.2 billion barrels 65 percent of which belonged to Kazakhstan (16.43 billion barrels) and the rest to Turkmenistan 0.91 billion barrels, Uzbekistan 1.34 billion barrels and Azerbaijan 6.5 billion barrels.[6] Two further studies published in April 1998 by Rice University's Baker Institute and the International Institute of Strategic Studies of London (IISS) confirmed Wood Mackenzie's figures.

Table 1. Energy Supply Indicators, Central Asia

Country	Proven Crude Oil Reserves, 1/1/02 E (Million Barrels)	Natural Gas Reserves, 1/1/02 E (Trillion cubic Feet)	Crude Oil Refining Capacity, 1/1/02 E (Thousand Barrels per Day)
Kazakhstan	5,417	65.0	427.0
Kyrgyzstan	40	0.2	10.0
Tajikistan	12	0.2	0.4
Turkmenistan	546	101.0	237.0
Uzbekistan	594	66.2	222.0
Total	6,609	232.6	896.4

[6] Country Report: Kazakhstan, EIU, 4th Quarter, 1997, p. 35



Source: B P Statistical Review, London, RIIA, 1996

An impressively large amount of untapped oil and natural gas may exist in Central Asia's vast fields, yet development prospects will remain dim until viable transport routes are established to bring the resources to lucrative markets in Europe and Asia. While western oil and gas companies are eager to participate in the tremendous investment opportunities in Central Asia, a combination of economic, political, cultural and historical factors are hindering prospects for significant joint venture development. Turkey, Iran and China are seeking to exercise political influence to further their commercial interests .[7]

On an energy equivalent basis, Central Asia is predominantly a gas-producing region. Compared to Persian Gulf the oil reserves in Central Asia

[7] James P Dorian, *Oil and Gas in Central Asia and North Western China*, Oxford University Press,1997, p.87

are not significant. Gas from the region is generally high in sulphur and must be treated before it can be transported through pipelines. Transportation is a major problem facing the gas industries in Central Asia. The transportation network for gas was established during Soviet times and reflected the priorities of the USSR. Central Asian gas flowed through Soviet built pipelines northwest to the major processing centres in European Russia.

Oil is the second most energy resource and has significant export potential. Kazakhstan has proven reserves of 5.4 billion barrels; Uzbekistan and Turkmenistan have modest oil reserves while Kyrgyzstan and Tajikistan produce only small quantities. At current consumption levels, the region holds enough fossil fuels to cater to the oil needs of Europe for eleven years, a prize that has many oil companies salivating, especially because labour costs in the region are low and environmental standards are practically non-existent. Control over even more precious energy reserves is also of critical importance for Europe, which is heavily dependent on external supplies. By the year 2030, only 70 percent of Europe's oil requirements will be covered by domestic production. Norway's oil will be exhausted in about 14 years and of Great Britain in just ten years.

Kazakhstan

Being the largest of the former Soviet Republics after Russia, Kazakhstan controls the northern and northeastern shores of the Caspian. Despite an expanse of 2,717,000 square kilometers, Kazakhstan has population of only 16 million concentrated in the north along the Russian border and in the south close to Uzbekistan and Kyrgyzstan. Because of the Russian conquest and the Soviet policy of encouraging migration to Central

Asia, there is a large Russian and Slavic element in Kazakhstan's population. The native Kazakhs, representing approximately 45 percent of the population are Sunni Muslims, although some Shamanistic influence persists.

Outside perceptions of Kazakhstan since independence have evolved from admiration for its success in preventing ethnic strife and partition to disappointment over the shift towards authoritarianism in recent years. The young Central Asian Republic of Kazakhstan still faces the daunting challenges of nation building and of creating an overarching 'Kazakhstani' identity that would appeal to both Kazakhs and non-Kazakhs alike. In Kazakhstan, 'political leadership' might be considered a euphemism for President Nursultan Nazarbayev in whose hands all political power is concentrated. Like all former Soviet republics, the country suffers from an all-pervasive and endemic corruption, which distorts the economy and deters foreign investment.

The sudden dissolution of the Soviet Union caught Kazakhstan unprepared for independence. The situation in the Republic had been calm during the perestroika years. In April 1990, Nazarbayev exchanged his title of Communist Party Secretary General for that of the President of Kazakhstan when the Supreme Soviet of the Republic elected him to that position. He conducted a referendum in April 1995 to extend his term until December 2000. A series of measures were then passed by parliament, which allowed Nazarbayev to become President for life[8]. In a move to neutralize the threat of separatism by ethnic Russians, the Kazakh parliament, at Nazarbayev's request voted in July 1994 to move the capital

[8] Energy Information Administration. www.eia.gov

from Almaty to Astana. Since the demise of the communist party and its patronage system, clan and tribal consciousness have played an increasingly important role in both the economy and politics of Kazakhstan, thereby alienating non-Kazakh minorities, which do not belong to any horde[9].

After Russia, Kazakhstan was the second largest oil producing republic in the former Soviet Union at the time of its collapse with production of over half a million barrels per day (bbl/d) in 1991. Kazakhstan has significant petroleum reserves, with proven reserves estimated at 5.4 bb of oil. In addition, Kazakhstan's possible hydrocarbon reserves, both onshore and offshore, dwarf its proven reserves with estimated possible reserves- mostly in the Kazakh sector of the Caspian Sea of between 30 billion and 50 billion barrels. Kazakh officials have said that the offshore Kashagan field alone may contain up to 50 billion barrels of oil. Kazakh oil production is expected to reach 1.2 million barrels per day in 2005, 3 million barrels per day by 2010 and as much as 10 million barrels per day by 2015. Most of this growth will come from three enormous fields i.e. Tengiz, Karachaganak and Kashagan. In addition, with a number of major oil fields recently coming on stream, including north Buzachi, Sazankurak, Saztobe, Chinarevskoya and Airankol and fields such as Alibekmola, Urikhtan and Kozhasi set to begin producing shortly, Kazakhstan is expected to increase its oil production significantly in the next decade[10].

The Tengiz field with six to nine bbl of estimated oil reserves is being developed by the Tengizchevroil joint venture. In April 1993, Chevron signed an agreement with the Kazakh government to form the

[9] For details see Ajay Patnaik, *Nation Building Process in Kazakhstan*,Contemporary Central Asia, Vol.V, No.1, April 2001

[10] Europa World Year Book, 2002, p.842

Tengizchevroil joint venture to develop the Tengiz field. Production at the field has increased from 25,000 barrels per day in 1993 to over 2,50,000 barrels per day in mid-2002. Chevron Texaco plans to invest $ 3 billion over the next three years to expand TCO's production capacity. Tengizchevroil is expected to increase production to 4,00,000 barrels per day by 2005 and given adequate export outlets, the joint venture could reach peak production of 7,50,000 barrels per day by 2010. The Karachaganak field, which is being developed by Karachaganak Integrated Organization (KIO), a consortium led by Britain's BG and Agip (Italy), has estimated reserves of 2.3 bb of oil and gas condensate as well as 16 trillion cubic feet of natural gas. In 1997, KIO signed an $ 8 billion production sharing agreement to develop the Karachaganak field for 40 years, with a planned investment of $ 4 billion by 2006. So far, the development programme has focused on providing gas condensate. In the first five months of 2002, the Karachaganak field was providing 99,685 barrels per day of liquid hydrocarbon, with production scheduled to increase between 1,80,000 barrels per day and 2,40,000 barrels per day of condensate annually during the next two years[11]. Although the work on the offshore Kashagan field is still in the exploration stage, preliminary drilling results indicate that the field is huge and analysts have been hailing the field as the largest oil discovery in the world in the past 30 years. In February 2001, Italy's ENI, Agip's parent company won a fiercely contested battle among partners in the Offshore Kazakhstan International Operating Company (OKIOC) to be the operator for the field. OKIOC was subsequently renamed the Agip Kazakhstan North Caspian Operating Company (Agipkco).

[11] www.eia.gov

In march 2001, Agip KCO discovered oil in Kashgan West I, a well located 25 miles from the first well drilled (Kashagan East I). Although Agip KCO released estimates in June 2002 that the Kashgan field holds between 7 and 9 billion barrel of crude in proven reserves as well as 38 billion barrel in probable reserves, both Kazakh officials and energy analysts have called that estimate conservative. Output at the first stage of development, planned for 2005, is expected to be 1,00,000 barrels per day and further development likely will catapult Kazakhstan into the top five oil producers in the world. However, Kazakhstan needs to resolve two major issues- Caspian ownership rights and export routes- before it can reach its full oil producing potential[12].

Kazakhstan has proven reserve of 65 trillion cubic feet of natural gas, ranking it in the top 20 countries in the world in terms of natural gas reserves. However, the country's natural gas industry is significantly underdeveloped, and the sector's further development is hampered by a lack of infrastructure. Kazakhstan's natural gas deposits are mainly located in the western part of the country, while the potential consuming areas are in the south and north. The lack of internal pipelines connecting the country's natural gas-producing areas to the industrial belt between Almaty and Shymkent has hampered Kazakh natural gas production with many oil producers flaring the natural gas instead of using it[13].

More than 40% of Kazakhstan's proven natural gas reserves are located in one field, the giant Karachaganak field in the north-west near the border with Russia. Kazakhstan's other significant natural gas deposits include the Tengiz, Zhanazhol and Urikhtan fields. Many of the undeveloped offshore areas including the massive Kashagan field are

[12] Country Report; Kazakhstan, EIU, 4th Quarter, 1997, p.36
[13] Adelphi Paper, op.cit. pp.28

believed to hold large amount of natural gas. Although the international consortium developing Karachaganak has concentrated mainly on producing gas condensate this far, the field yielded 132 billion cubic feet of natural gas in 2002. Through the first five months of 2002, the Karachaganak Integrated organization extracted an additional 68.8 billion cubic feet of natural gas from the field. In order to remove the disincentives to the development of the country's natural gas industry, in august 1999 the Kazakh government passed a law requiring sub soil users to include natural gas utilization projects in their development plan. As a result, in 2000, Kazakhstan increased its natural gas production to 314 billion cubic feet, the highest level in the past decade. According the preliminary 2000 figures; Kazakhstan produced 324 billion cubic feet of natural gas in 2001, a 3.1% increase over 2000. From January 2002 to May 2002, Kazakh natural gas production totaled 158.5 billion cubic feet, a 2.1 percent year-on-year increase from the same period in 2001[14].

Turkmenistan

Turkmenistan is dominated by the Qara-Qum desert, which occupies roughly 90 percent of the country, making its central region usable for little other than the pasturing of herds of sheep, which has been at the core of the traditional Turkmen economy. Lands that are more habitable are found only around the southern and eastern edges of the country near the Amu Darya River in the east, and in the oases that line the foothills of Kopet Dagh mountain in the south. In addition, the Qara-Qum Canal, a massive irrigation channel from the Amu-Darya which was completed in 1967, irrigated huge

[14] www.eia.gov

area of land running across the region to the north of Turkmenistan's border with Iran. Turkmens overwhelmingly remained nomadic pastoralists until the 20th century. They occupied the desert lands between the Central Asian oases, the Caspian Sea and the Iranian plateau and often lived in some degree of tension with their settled neighbours. Despite their habituation of remote regions, the Turkmens were continuously dependent on Central Asian markets for grain, metal and other essentials that their nomadic lifestyle did not provide.[15]

In 1986, Saparmurad Niyazov was named the head of the Communist Party of Turkmenistan. Gorbachev's glasnost and perestroika had little effect on Turkmenistan as Niyazov opposed their implementation ostensibly because these policies had triggered ethnic conflicts. Turkmenistan voted overwhelmingly in the march 1991 referendum to preserve Soviet Union and Niyazov supported the abortive August 1991 'putsch' against Gorbachev. The poverty of Turkmenistan, one of the least developed Soviet republics and its consequent dependence on Moscow was the major cause of the Turkmen desire to preserve the Union. Yet the prospect of income generated by country's gas resources did evoke support for the proclamation of independence. The Soviet demise allowed Niyazov to do away with the timid democratization efforts that had taken place in Turkmenistan during the Gorbachev era. Since independence, Niyazov has emphasised the need for stability and gradual reform and opposed the introduction of democratic practices and multi-party politics into the Turkmen political life. A referendum held in January 1994 extended Niyazov's term of office until 2002 and in October 1999 *majlis* elections, where political parties were

[15] John Schoeberlein & Alisher Ilkamov, "The Lands and Peoples of the Caspian Region", in Hooshang Amirahmadi (ed.), *The Caspian Region at a Crossroad*, Macmillan, 2000, p. 47

disallowed, all candidates were elected unopposed, and all belonged to the democratic party, the new name of the re-baptised communist party. The 'Halk Mashkalaty'- the People's Council- took the unprecedented decision to proclaim Niyazov President for life in December 1999.[16]

Turkmenistan has 546 million barrels in proven oil reserves, with possible reserves (mainly in the western parts of the country and in underdeveloped offshore areas in the Caspian Sea) of up to 1.7bb. The country's oil production which steadily declined after independence from 1,10,000 barrels per day in 1992 to 81,000 barrels per day in 1995, had increased dramatically in the past six years, reaching 1,56,400 barrels per day in 1999 before leveling off in the past two years. In 2001, Turkmenistan produced 1,59,000 barrels per day of oil while consuming 54,000 barrels per day. Turkmenneft, the state oil company, produced approximately 90 percent of the total, with the remainder coming from the state natural gas company, Turkmengaz and several foreign oil companies operating in Turkmenistan. In 2002, Turkmenistan increased its oil output to 2,00,000 barrels per day, with additional production coming from newly developed wells in the western part of the country. Under a ten-year programme dictated by President Niyazov, Turkmenistan aims to raise its oil production to nearly one million barrels per day.

Turkmenistan has some of the world's largest deposits of natural gas with proven natural gas reserves of approximately 101 trillion cubic feet. The largest natural gas field is in the Amu-Darya basin with perhaps half of the country's natural gas reserves located in the giant Daulatabad-Donmez

[16] Michael Ochs, "Turkmenistan: The Quest for Stability and Control", in Karen Dawisha and Bruce Parrot (eds.), *Conflict, Cleavage and Change in Central Asia and the Caucasus*, Cambridge University Press, 1997, pp. 322-323

field. In addition to Amu-darya, Turkmenistan contains large natural gas reserves in the Murgab basin, particularly an estimated 27 trillion cubic feet. During the last ten years, Turkmenistan has also discovered 17 new natural gas deposits in the Lebansky, Maryinsky and Deashoguzsky regions of the country[17].

Turkmenistan was a substantial natural gas producer under the Soviet Union, but after the country became independent, Turkmen natural gas became a competitor with the Russian natural gas. Since Turkmenistan's only natural gas export routes ran through Russia, Gazprom Company controlled Turkmen gas exports, and as a result, Turkmenistan's natural gas production sagged throughout the 1990s. Following the resolution of a pricing dispute with the Russians in 1998 and the construction of an export pipeline to Iran, Turkmenistan's natural gas production began to climb steadily. In 2001, the country's natural gas production jumped to 1.64 trillion cubic feet against consumption of just 0.26 trillion cubic feet. With its natural gas reserves, Turkmenistan is counting on increased natural gas production and exports to fuel its economic recovery. In May 2001, Turkmengaz, started exploration and prospecting work on a new field in Darganata, North Eastern Turkmenistan. Commercial exploitation of the Gagarinskoye deposit in Zaungul Karakum in scheduled to bring soon, while resumption of the work in the Samantepe field on the right bank of Amu-Darya in eastern Turkmenistan is being planned. Under a Presidential programme, Turkmengaz is also stepping up exploratory work in the

[17] Country Report, Turkmenistan, EIU, 4th Quarter, 1997, p.43

Karakum and Kyrgyzstan deserts. However, in the first two months of 2002, Turkmenistan already had produced 413 billion cubic feet of natural gas[18].

Uzbekistan

Since Uzbekistan gained its independence in December 1991, its government has sought to prop up the Soviet style command economy with subsidies and tight controls on production and prices. Although this gradualist reform strategy has helped the country to avoid the dramatic economic contraction and drastic decline in living standards recorded in many other countries in the former Soviet Union, it has failed to bring about much needed structural changes.[19] The decline of the Uzbek economy in the mid-1990s was less pronounced than that of neighbouring Republics. Uzbekistan even managed to increase its oil and gas production after independence, although by the end of the decade its economic situation remained precarious.

In terms of population, Uzbekistan is the largest Central Asian state. It is also unique in sharing borders with all the four Central Asian Republics as well as with Afghanistan, its only non-CIS neighbour. Because of the country's geographic centrality, its leaders possess the leverage to mobilize irredentist movements among Uzbek minorities concentrated in the bordering states. This demographic factor is a constant source of concern for the Kyrgyz, Tajik and Turkmen governments, especially because the Uzbek populated regions constitute the richest and most industrialized parts of these countries. Fear of Uzbek expansionism has become a key factor driving the

[18] Europa World Year Book, 2002, p.1204
[19] www.eia.gov

foreign policy choices of Central Asian states. Such choices include close links with Russia and Iran. The two most powerful Caspian states, Iran and Russia, resented Uzbekistan's new-found role in the mid-1990s as America's favorite Central Asian partners[20]. From early days of independence, Uzbek President Islam Karimov has ruled the country by autocratic methods, a factor contributing to the rise of an Islamist opposition. Since 1997, the growing Islamist threat has affected Uzbek relations with the states of the Caspian rim.

While Uzbekistan has recorded six straight years of real gross domestic product (GDP) growth the lack of significant macro-economic and structural reforms, the country's rapid accumulation of external debt as well as its declining level of foreign exchange reserve, makes this pattern unsustainable. The government continues to have a dominating influence on the Uzbek economy. Uzbekistan tightened the currency and export controls in its largely closed financial crises, further deterring foreign investors already shying away from the country because of a poor climate and Uzbekistan's non-convertible currency, the '*som*'. Analysts argue that continuing administrative and trade controls are inhibiting growth and discouraging foreign direct investments (FDIs). FDIs in Uzbekistan are significantly lower than in other energy rich former Soviet republics such as Turkmenistan and Kazakhstan.

Uzbekistan is estimated to contain 594 million barrels of proven oil reserve with 171 discovered oil and natural gas fields in the country. The Bukhara-Khiva region contains over 60 percent of Uzbekistan's known oil fields including the Kokdumalak field, which accounts for 70 percent of

[20] John Anderson, The International Politics of Central Asia, (New York, Manchester, 1997), p.177

their country's oil production. In addition, the Ferghana region contains another 20 percent of the country's oil fields and the Ustyrt plateau and the Aral Sea have been targeted for further exploration. Oil deposits in Kodumalam, Shurtan, Olan, Urgin and south Tandirchi (all in south western Uzbekistan) are being developed rapidly[21]. As a result, despite a drop in oil production in the past few years, Uzbekistan has more than doubled its petroleum output in the past decade. From 65,500 barrels per day in 1992, Uzbekistan increased its oil production to 1,61,000 barrels per day in 1998 and became a net oil exporter. How ever, Uzbekistan's oil and gas condensate production has been declining in the past few years as existing fields are exhausted faster than new commercial reserves are discovered. Uzbekneftegaz, the state oil and natural gas company expects liquid hydrocarbon production in the country to fall to 1,20,000 barrels per day in 2005. In an effort to stem the decline in Uzbekistan oil production, the Uzbek government is seeking foreign investment in the country's oil sector. Uzbekistan is offering a 49 percent state in Uzbekneftegaz, the holding company that was created by merging nine companies in 1998 to unite the country's entire oil and natural gas sector. Since independence, the Uzbek government has invested $2.1 billion in modernizing Uzbekneftegaz, but the flow of money into the Uzbek upstream has been far slower than in other Central Asian countries due to Uzbekistan's strict currency controls[22].

The government is eager to attract $400 million through production-sharing agreement (PSAs) as well, with over 80 fields on offer. Of these, 78 fields are situated in 16 exploration blocks, and eight individual fields (with total remaining reserve of some 1.2 billion oil barrel of oil equivalent) have

[21] www.eia.gov
[22] Adelphi Paper, op. cit. pp.42

been opened up for foreign participation. Those fields include four in the southwest Gissar Basin (Dzharkuduk, Gumbulak, south Kizilbairak and south Tandircha) and four in the Amu Darya region (North Shurtan, Shakarbulak, south Kemachi and Umid). In addition, Uzbekistan is seeking investment to boost production at existing fields. Uzbekneftegaz already has termed with oil services giant Baker Hughes in a joint venture to increase oil production at the country's North Urtabulak field to over 6,000 billion barrels per day. Baker Hughes, which will invest $8 million in the Northern Urtabulak project, also has the option to develop the Adamtash, South Kemachi, and Umid fields, with total investment of $120 million. UZPEC, a subsidiary of Britain's Trinity Energy, received licenses in 2001 to explore and develop oil and gas condensate fields in southwest Gissar and Central Ustyurt. According to its PSA with Uzbekneftegaz, UzPEC will hold the licenses for forty years and will be required to invest more than $400 million, including $200 million in the next five years[23].

With estimated natural gas reserves of 66.2 trillion cubic feet, Uzbekistan is the second largest natural gas producer in the Commonwealth of Independent States (after Russia) and one of the top ten natural gas producing countries in the world. It produces natural gas from 52 fields in the country, with 12 major deposits including Shurtan, Gazli, Pamuk and Khauzak, which accounts for over 95 percent of the country's natural gas production. These deposits are concentrated in two general areas, i.e. the Amu-Darya basin and the Mubarek area of the south-west part of the country[24].

[23] Country Report; Uzbekistan, EIU, 4th quarter,1998, p.34
[24] www.eia.gov

After becoming independent, Uzbekistan has increased its natural gas production by over 30 percent from 1.5 trillion cubic feet in 1992 to 1.99 trillion cubic feet in 2000. According to preliminary data in 2001, Uzbek natural gas production increased to 2.03 trillion cubic feet for the year. However, Uzbekistan's natural gas field was heavily exploited in the 1960s and 1970s and as a result several other fields such as Uchkyr and Yangikazgan, are beginning to decline in production. In order to offset those declines, Uzbekistan is speeding up developments at existing fields such as Garbi and Shurtan, as well as developing new fields and exploring for new reserves. The Shurtan field began producing in 1980 and is the second biggest in the country after Gazli, accounted for approximately 36 percent of Uzbekistan's total natural gas output in 2000. Due to its high sulphur content, Uzbekistan's natural gas requires processing before it can be used for consumption. Much of Uzbekistan's natural gas is processed at the Mubarek processing plant, which has a capacity of over one trillion cubic feet per year. In December 2001, Uzbekneftegaz commissioned the Shurtan Gas-Chemical Complex, which includes Installation to clean natural gas, a natural gas booster compressor station and a plant with the capacity to produce 1,25,000 tons of polythene and 1,37,000 tons of liquefied natural gas per year. The complex, which is located by the Shurtan gas fields in the southwest part of the country in the Kashkadarya region, was completed at a cost of $1 billion[25].

In addition to the Shurtan project, Uzbekneftegaz is undertaking several projects to ensure the country's natural gas sector will remain vibrant. The company's Kodzhaabad underground natural gas storage

[25] Europa World Year Book, 2002, p-1846

facility in Andizhan region opened in 1999 at a cost of $72 million, allowing increased natural gas shipments to Uzbekistan's industrial heartland in the Ferghana valley. In January 2001, Trinity Energy (UK) committed to investing more than $400 million, over a 40-year period, in exploration and production of gas condensate deposits in the Plato Ustyurt region. In March 2002, Russia's Itera and Lukoil signed a PSA with Uzbekneftegaz to form Joint Stock Company to develop several now gas fields in Uzbekistan, including the giant Kandym field. Natural gas reserves at the fields covered by the PSA are estimated at 8.1 trillion cubic feet including approximately 5.4 trillion cubic feet at the Kandym structure. Initial investment in the projects is estimated at $377 million with natural gas production rising from 159 billion cubic feet per to between 280 billion cubic feet and 350 billion cubic feet per year.

Kyrgyzstan

Kyrgyzstan (The Kyrgyz Republic) is a small landlocked state situated in eastern Central Asia. It borders Kazakhstan to the north, Uzbekistan to the west, Tajikistan in the south and west and China to the east. In the referendum on the preservation of the USSR, held in nine Republics in March 1991, an overwhelming majority (87.7 percent) of eligible voters in Kyrgyzstan approved the proposal to retain the USSR as a renewed federation. As in other former Soviet Republics, a serious issue confronting Kyrgyzstan's government following independence was the rapid increase in criminal activity- in particular the cultivation of and trade in illicit drugs. Despite the deteriorating economic situation, the economic reforms of the President Askar Akayev appeared to enjoy popular support.

Akayev, who was elected in October 1990, was re-elected as President in 1991, 1995 and 2000.

In 2000, according to estimates by the World Bank, Kyrgyzstan's Gross National Product (GNP) was US $ 1,330 million equivalent to $270 per head ($2,590 on Purchasing Power Parity). During 1990-99, GNP per capita decreased in real terms at an average annual rate of 6.5 percent. Over the same period, the population increased by an annual average of 1.1 percent. Real Gross Domestic Product (GDP) increased by 5.0 percent in 2000 and by 5.3 percent in 2001. Agriculture, hunting and forestry contributed an estimated 36.7 percent of GDP in 2000. 52.6 percent of the labour force was employed in the primary sector. By tradition the Kyrgyz are a pastoral nomadic people and the majority of the population (62 percent) resides in rural areas. Industry contributed an estimated 30.0 percent of GDP and 11.6 percent of employment.

With estimated petroleum reserves of only 40 million barrels, Kyrgyzstan is reliant on imports for its domestic supply needs. Kyrgyzstan has seven developed oil fields and two oil/gas fields but due to the country's mountainous topography, extraction is difficult and water encroachment meant that recovery rates are low. In 2000, Kyrgyzstan produced an estimated 2,100 barrels per day of oil. The country's oil consumption has sharply declined since 1992, when it consumed 32,500 barrels per day. Kyrgyzstan's estimated oil consumption in 2000 of 12,000 barrels per day still required imported supplies to meet domestic demands[26]. Kyrgyzstan is looking to its oil production, and the government is undertaking a programme of intensive oil extraction in order to meet the country's

[26] www.eia.gov

domestic petroleum needs. Oil reserves in the Ferghana valley are estimated at 733 million barrels, while 200-300 million tons (1.47-2.12 billion barrels) are thought to be deposited in the Chuy, Alay, Issyk-Kul and At-Bashi depressions. Under the programme to develop the oil sectors, Kyrgyzstan is planning to produce 3,000 barrels per day by 2005. In an effort to reach that target, Kyrgyzneftegaz, the state oil and natural gas Company, is partnering with several foreign energy companies as well as Chinese government. A Kyrgyz-Austrian venture with Kyrgyzneftegaz and Action Hydrocarbon spend approximately $5 million on exploration work in 2001 and this may increase to $30 million in 2002. In addition, Chinese and Kyrgyz specialists are repairing more than hundred idle oil wells in Kyrgyzstan in 2002. Kyrgyzneftegaz also is planning to begin drilling exploration wells in the Dzhalalabad in 2002, investing $30 million of its own money[27].

Kyrgyzstan has proven gas reserves of 200 billion cubic feet. The country's natural gas sector is small and domestic natural gas production has declined from 3.5 billion cubic feet per year in 1992 to only 0.5 billion cubic feet in 2000. As a result, Kyrgyzstan is heavily dependent on natural gas imports mainly from Uzbekistan to meet its domestic consumption requirements (67.5 billion cubic feet in 2000). Kyrgyzstan receives natural gas from Uzbekistan under agreements signed by Kyrgyzstan, the state's natural gas distribution company and Kyrgyzstenego, the state electric utility.

Since Uzbekistan began charging higher rates for its natural gas in the mid 1990s, Kyrgyzstan has fallen into payment arrears and Uzbekistan periodically has cut off natural gas to Kyrgyzstan in response. While much

[27] Country Report; Kyrgyzstan, EIU, op. cit. p.47

of Kyrgyzstan's electricity is generated by hydropower in the warmer months of the year, natural gas is the primary fuel used in heating Kyrgyz cities and villages as well as in electricity generation during winter. Thus, winter supply disruptions to Kyrgyzstan have resulted in blackouts and heating shortages. Kyrgyz and Uzbek officials have negotiated several barter deals to exchange Kyrgyz electricity, water and/or goods for Uzbek natural gas, but these deals have often fallen through causing tension between the neighbouring states.

Tajikistan

The republic of Tajikistan is situated in the southeast of Central Asia. Its GNP per capita was $ 170 in 2000 (or $ 1,060 on PPP basis). It has the lowest per capita GDP in the former Soviet Union. During 1990-98, it was estimated, GNP per head declined in real terms by an average annual rate of 13.4 percent. According to Asian Development Bank (ADB), growth in GDP reached its highest level of 10.0 percent in 2001.

On August 1991, in an apparent concession to growing Tajik nationalism, the Supreme Soviet adopted a declaration of sovereignty. In November 1991, Kakhar Makhkamov was elected as the new executive President of the Republic. In 1994, Emamoli Rahmonov replaced Makhmanov as President.[28] Tajikistan suffered a civil war between Islamic conservatives and the secular government after becoming independent in 1991. Although a peace agreement between the United Tajik Opposition and the government of President Rakhmanov was signed in 1997, implementation has progressed slowly, and Russian led peacekeeping troops

[28] Europa World Year Book, 2002, p.1422

remain posted throughout the country. A modest economic recovery began after Tajikistan concluded a loan agreement with the International Monetary Fund in 1997. The Tajik government brought inflation down to 13.5 percent in 2001 from 60.0 percent in 2000.[29] However, Tajikistan still faces major problems in integrating refugees and former combatants into the economy and the country continues to depend on aid from Russia, Uzbekistan, and international humanitarian assistance for much of its basic subsistence needs. The future of Tajikistan's economy and the potential for attracting foreign investment depends upon stability and continued progress in the peace process.

Tajikistan has proven oil reserves of only 12 million barrels. The country's small oil industry is centred on the northern Leninobod Soghd region. In 2001, Tajikneftegaz, which is responsible for all oil exploration, drilling and production in Tajikistan, produced an average of just 350 barrels per day of oil, continuing a downward trend that has seen the country's oil producting drop off from 1.311 barrels per day in 1992. Tajikistan's 1992-97 civil war, coupled with economic contraction and a lack of investment to maintain the oil sector's infrastructure, has resulted in a 73 percent decline in national oil production. Tajikistan consumed approximately 29,000 barrels of petroleum per day in 2001, of which nearly 100 percent is imported. In July 2001, Tajikistan opened its first refinery, the small 400 barrels per day capacity Konibodom refinery, which produces gasoline, diesel, kerosene and fuel oil. However, the country still must import much of its oil as refined petroleum products. Uzbekistan supplies more than 70 percent of Tajikistan's oil demand.

[29] www.eia.gov

With just 200 billion cubic feet in proven natural gas reserves, Tajikistan produces minimal amounts of natural gas domestically, leaving the country reliant on imports to meet domestic demand. In 2000, Tajikistan commissioned the Khoja Sartez natural gas field in the southern Khatlon region, which in combination with the increased utilization of Qizil Tumshuq deposit in southern Khatlon region's Kolkhozobod district, would lead to increased domestic natural gas production. For 2000 as a whole, the country produced 1.4 billion cubic feet of natural gas. Tajikistan relies heavily on Turkmen and Uzbek natural gas to meet the domestic demand, which stood at 44.1 billion cubic feet in 2000.

TABLE 2 :ECONOMIC AND DEMOGRAPHIC INDICATORS FOR CENRAL ASIA

Country	Gross Domestic Product (Nominal GDP) 2001 E (billions of US $)	Real GDP Growth Rate, 2001 Estimate	Per Capita GDP, 2001 E	Population 2001 E (millions)
Kazakhstan	$21.4	13.2%	$1,442	14.8
Kyrgyzstan	$1.5	6.6%	$290	5.0
Tajikistan	$1.0	9.5%	$152	6.3
Turkmenistan	$5.4	18.0%	$988	5.5
Uzbekistan	$10.8	4.3%	$428	25.3
Total/Weighted Average	$40.1	11.1%	$705	56.9

Source: www.eia gov

History of Oil Exploration In Central Asia And Caspian Region

Stories of Baku's 'Eternal Fires' have emanated from the area for at least 2500 years, and authenticated reports since the 6th century BC. Zarathustra (Zoroaster) was said to have traveled to see the fires with his own eyes. The fires were lighted by natural gas coming out of earth's crust. The first records of deliberate export of oil appear during the 10th century. At this time, wells were already being dug on the Apsheron peninsula at an average depth of about 10-12 metres.[30] According to the Azerbaijan Academy of Sciences, the first well was prepared in what is now the giant Bibi-Eibat field in 1848. However, mechanical drilling did not substitute digging by hand until drilling machinery was imported to Baku in 1871. The annual production of Russia increased from 41,000 barrels in 1863 to 2,04,000 barrels in 1820, all of which was from the Baku fields. Some attempts at refining the crude oil began in the Baku region in 1863 with the opening of a local refinery and in ten years since there were ten small size refineries processing the oil successfully. Large flowing wells were obtained in the region of Baku in 1873. For the next twenty years, Russian output increased each year without a setback. The Baku district produced most of the Russian oil. Local conditions and the Tsarist initiatives gave rise to particular Russian concepts and engineering practices. The most expensive experience of the American oil industry, however, had a significant impact on this development.

The Russian oil industry began to inspire foreign buyers, who found themselves impressed by the new vigour and modern climate within which the Russian oil industry was run. The entrance of foreign capital began with the arrival of Swedish brothers, Robert and Ludwig Nobel, who more than anybody else deserve the credit for bringing the Russian oil industry to

[30] R. J. Roberts, *Studies in Early Petroleum History*, Leidess E. J. Brill, 1958, pp. 161-162

world prominence in the late 19th century. In 1875, the Nobel family purchased the giant Balakhany field and built their first modernized refinery. In 1877, they build the first tanker in Russia, 'Zoroaster'. A pipeline was laid during the same year from the Balakhany filed to the refinery. They supplied a substantial market for illuminating oil in northern Europe by tank steamers on the Caspian Sea to Astrakhan. At Astrakhan, the cargo was transferred to Volga river barges. During the next 25 years, the Nobel interests drilled more than 500000 wells employed as many as 12000 men in their petroleum business and produced about 150 million barrels of petroleum.[31] Following the Nobels, the international Rothschild Company came and contributed to the expansion of the oil industry in the Caspian Central Asian region. Together with the Nobels, they built small tank steamers to carry petroleum across the Caspian Sea for transfer to Volga River barges, and they were largely responsible for the construction of a railroad from Baku to Batumi. They also started to build an oil pipeline in 1901 and finished in 1905.[32]

When the Bolsheviks came to power in 1917, Russia had 28 oil and gas fields, mostly in the Caspian-Caucasus region. The revolution confiscated private holdings and practically isolated the immense crude resources of the country from the rest of the world. The petroleum industry remained in chaos for the next ten years.[33] Oil production, however, increased consistently from 1920 to 1928. Bibi Eibat was extended into the Caspian Sea by dirt fill in 1922-1923 and the construction of steel pilings in 1924. During 1925, the first well was completed by Soviet engineers in the Caspian offshore area from a ramp of steel pilings and boards. Oil

[31] Alfred Nobel was the largest single shareholder (12 percent) in the Nobel brother's oil producing company in Baku. The Nobel family's decision to allow the withdrawal of Alfred's money was the decisive factor that enabled the Nobel Prize to be established in 1901.
[32] Herbert R. Cottman, *Return of the Rothschilds*, IB Tauris, 1995, p. 100
[33] M. I. Goldman, *The Enigma of Soviet Petroleum*, George Allen and Unwin, 1980, p. 2

production surpassed the former 1901 peak in 1928. The resumption of drilling in 1924, which had completed extensions and deeper sands in the Baku fields, and the development of better methods of operations were the main resources for this.[34]

During the World War I, the Germans, having exhausted their own fuel supplies, tried to seize oil in the Baku region to fuel their continuing war effort. But the region fell under the Turkish control and eventually Soviet influence. The Germans, unable to continue the war surrendered in November 1918. In World War II, during his campaign against Russia, Hitler tried to capture oil fields around Caspian as part of his strategy for world domination. However, the German campaign failed due to the mountainous terrains, strength of Soviet defence and exhaustion of forces and the "Germans ran out of oil in their quest for oil". After the war, the Soviets retained these areas as reserves, choosing to exploit oil deposits in Russia, Tartarsatan and Siberia. Central Asian production contributed more than 20 percent of the natural gas and oil output of USSR through the 1960s and 1970s. The Soviet policy in Central Asia was aimed at economic extraction, creation and fostering a long term economic dependency.

During the period up to World War II, the Caspian region continued to provide an average of 80 percent of the Soviet Union's crude oil output despite the new discoveries in the Volga-Ural region. In 1940, out of the 227 million barrels of oil produced in the whole country, 62 million barrels came from Baku, 16 million barrels from North Caucasus and 60 million barrels from the other regions.[35] During the fourth (1946-50), fifth (1951-56) and sixth five years plans of the USSR, outstanding discoveries were made in the Volga-Urals. In this way, the focus of Soviet oil development shifted form

[34] Edgar Wesley Owen, *Trek of the Oil Finders: A History of Exploration for Petroleum*, Tulsa, Oklahoma: American Association of Petroleum Geologists, 1975, p. 1361
[35] Ibid, p. 1371

the Caspian-Central Asia region to a strategically crucial area between the Volga River and the Ural mountains. Other major discoveries were made in the Dnepr-Douets in the Ukraine, in the south Caspian, on the Bukhara-Khiva platform further east and in west Siberian basin. It took the soviets some time to recover from the damage done to their oil fields during the World War II. But once the recovery was complete, achievements were notable; oil production in 1958 was more than five times greater than that of in 1946.[36] The period of 1959-65 was remarkable for achievements in the oil industry. Soviet oil production increased from 949 million barrels to 1770 million barrels. Trunk lines were laid from remote oil fields to leading industrial centres and new industries in underdeveloped areas. The COMECON oil line was completed from the Volga-Urals to Poland, East Germany, Czechoslovakia and Hungary in 1964. The first Soviet well drilled from a mobile self-elevating platform, the 'Aspheron' was completed in the Caspian Sea in 1966. This massive development greatly advanced industrial growth and fuel certainly contributed to whatever improvements had taken place.[37]

By the early 1970s, the number of proven fields increased enormously and extensive pipeline construction made large supplies of oil and gas available to new industrial centres throughout the Soviet empire. Increasing regularization and better facilities helped to create a more constructive environment for the Soviet oil industry.

In 1974, Soviet oil production became the largest in the world. The Soviet Union was the only country on earth that was practically independent in energy. The most pressing aspect of the petroleum industry in the Soviet Union in the late 1980s was the fact that Soviet technology seriously lagged

[36] Marshall I. Goldman, "Soviet Economic Trends with Special Emphasis on Investment and Energy Policies", in Kenya Niiseki (ed.) *The Soviet Union in Transition*, West View Press, 1989, p. 74
[37] Owen, *Trek of the Oil Finders*, p. 1391.

behind that of the west. The oil extraction technology was underdeveloped. Soviet drill pipes and bits were of such poor quality that the drilling process often had to be stopped for repairs. Most steel goods did not meet minimum western requirements for quality and construction standards.[38]

The collapse of the former Soviet Union has opened a new era in the history of oil production in the Caspian-Central Asian region. The largest reserves of explored oil in the region are concentrated near the shores of Azerbaijan and Kazakhstan. The coast of Turkmenistan is the least explored of all. Turkmenistan is less endowed with oil than natural gas deposits. It has large reserves of natural gas and at present is more concerned with exploring this gas potential and establishing an infrastructure that would allow this to take place.

The break up of former Soviet Union created a geopolitical vacuum in Central Asia and the Caucasus, which has been attracting worldwide attention. Russia, the west and other major powers are closely monitoring the developments in the hydrocarbon sector in the region. Once divorced from the Former Soviet Union, the Central Asian states started to realize the strategic importance of their underground resources. Resource exploration and transportation are their priorities to propel their economic and political development. Privatization is generally being implemented quickly. If political stability can be achieved, a steady economic growth is expected at a rate of two percent to six percent for the Central Asian states in the next 15 years.

[38] A. A. Meyerhoff, "Soviet Petroleum: history, Technology, Reserves, Potential and Policy", in R. G. Jensen et al., (ed.), *Soviet Natural Resources in the world Economy*, University of Chicago Press, 1987, p.204

CHAPTER II

PIPELINES IN CENTRAL ASIA

The principal energy resources in Central Asia are to be found in Kazakhstan and Turkmenistan. Both the states are essentially landlocked, the Caspian Sea being an inland sea with no connections to the Oceans. As a result, a major aspect of the international competition over the exploitation of these resources is the struggle over which route to take to the sea and the global market. While the countries of Central Asia may be gloating on a sea of hydrocarbon, they are far from both actual seas and centres of industry. Unlike the situation in the Persian Gulf, where every oil producing country has access to open seas, the land locked nature of Central Asia makes Kazakhstan and Turkmenistan dependent on adjacent countries for their trade and export of energy. The governments of these states and the multinational oil and gas companies have had to face the difficult task of choosing the most appropriate routes for both short term 'early oil' and long term shipment of large qualities of hydrocarbon.[1]

Prior to the collapse of the Soviet Union, international markets had no access to the rich energy resources of the isolated regions of Central Asia and up to now the former Soviet Republics, all of which gained their independence about ten years a go, have transported their oil through old Soviet pipeline grid for sale in Russia. In the 1990s, the ex - Soviet buyers of hydrocarbons could no longer afford to pay world prices. And Gazprom, the old Soviet company that owned the pipelines, was selling its own oil in

[1] R. Hrair Dekmejian and Hovann H Simonian, *Troubled Waters, the Geopolitics of the Caspian Region*, I. B. Tauris, 2001, p. 35.

competition with that of the Caspian republics. In 1997, Gazprom denied access to Turkmenistan, to its pipelines over a payment dispute resulting in about 25 percent drop in the Turkmenistan GDP. The ex-Soviet pipelines network itself is past its use by date, having been sloppily built with out-of-date technology and itself need billions of dollars to renovate it.[2]

Kazakhstan and Turkmenistan remain dependent on Russia in terms of transporting their oil and gas resources outside their borders. Russian pipelines and related infrastructure will be insufficient to carry all the crude that may be produced regionally towards international consumers. To be able to cope with increased oil production it is imperative to build new pipelines capable of transporting up to 80 million tons of crude annually. As for the market, the big question has been: should the pipelines flow East or West? The western route would be easier, as much of the infrastructure is already in place. There are several projects underway or completed for bringing energy resources to the west. However, European oil demand over the next decade is expected to grow by only one million barrels per day, while Asian demand is expected to grow by at least 10 million barrels per day over the same period. Therefore, greater profit is seen in piping these resources to the east and south.[3]

The pipeline projects proposed to date can be classified into five geographical routing categories: the northern, the western, the southern, the southeastern and the eastern. The northern or Russian route will take oil from Kazakhstan to the Russian Black Sea port of Novorossiisk. The western route would transport Kazakh and Turkmen oil or gas to Azerbaijan through a sub-Caspian pipeline proposed to the built. The southern or

[2] Richard Tanter, "Pipeline Politics", *The Outlook*, July 2001, p.73
[3] Dale Allen Pfeiffer, *The Forging of Pipelinistan*, www.copviaa.com

Iranian route would ship oil and gas through Iran for export to world markets from Persian Gulf ports. Initially the southern route would rely on swaps by which Iran would place some of its oil or gas at the disposal of participating countries, in exchange for receiving from them an equivalent amount of oil and gas to supply its heavily populated northern provinces. Once pipelines are built through Iranian territory, Central Asian oil and gas would directly reach the Persian Gulf. The southeastern route would go to the Arabian Sea through Afghanistan and Pakistan and would concern principally Turkmen production, although the authors of the project hope to attract oil and gas from Azerbaijan and Kazakhstan as well.[4] The last and least likely option due to the high construction cost, in the eastern route crossing all of China to supply consumer markets in East Asia, Japan and Korea.[5]

Mechanism of Pipelines

Pipeline is a system of pipes, pump stations and other facilities used to transport liquids, gas or sometimes solids. The predominant use of pipelines is in moving large volumes of crude petroleum, natural gas and refined petroleum products from the source of supply to the refineries and eventually to the consumer. Pipelines are usually buried in the ground, but they are frequently laid under water to serve offshore deposits of gas and oil and sometimes above ground, when conditions warrant. As industry has expanded throughout the world since World War II, and as new fuel supplies have been developed, pipelines have offered a relatively economical means of transporting this fuel. Pipeline transportation of petroleum as natural gas

[4] George Lenczowsku, "The Caspian Oil and Gas Basin: A New Source of Wealth", *Middle East Policy*, 5, No. 1, January 1997, pp. 114-119.
[5] Michael Kaser and Santosh Mehrotra, "The Central Asian Economies after Independence", in Roy Allision (ed.) *Challenges for the Former Soviet South*, London, Royal Institute of International Affairs, 1996, p. 237.

in large volumes can be accomplished at lower costs than by other methods of overland transportation. Most modern pipelines are constructed of steel although aluminum, plastic or various alloys are used for special purposes.[6]

Petroleum pipelines involve three major systems: gathering lines, which transport crude oil from the individual wells to a central location, such as a main line pump station; trunk lines, which accomplish the long distance transmission of crude oil to the refineries; and distribution lines which carry refined products from supply sources such as refineries and sea ports to areas of consumption. Natural gas pipelines are composed of gathering lines, compressor stations (pump stations) and trunk lines, extending from natural gas producing areas to the distributing systems of cities and towns. When a pipeline is to be built between two points, a tentative route is selected on the basis of aerial mapping and a careful survey on the ground. After a design has been adopted, the company should obtain a right of way along the entire route usually covering a strip 50 to 200 feet (15-61 meters) in width. Heavy machinery then moves in. Bulldozers and other earth moving equipment clear the land, and trucks or tractors haul the sections of pipe usually 40 to 80 feet (12-24 metres) long. Teams of welders join several sections of pipe together and X-ray equipment is used to inspect the welds. The pipe may have to be bent by special bending machines so that it can follow the contour of the land or go around an obstacle. Protection of the pipe against corrosion is the next important step. This involves painting the outside of the pipe with asphalt and wrapping it in a blanket of protective material. Increasingly corrosion resistant aluminum and plastic pipes are being used. Long sections of welded pipe are then joined together to form a continuous conduit. Finally, the line is tested under the hydraulic pressure.

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[6] *Encyclopaedia Americana*, Vol. 22, Grolier Incorporated, 1983, pp. 126-129,

In general, pipelines vary in size from two inches in diameter for small gathering lines in the vicinity of an oil field to as much as 48 inches for the main or trunks lines that are used to transport crude petroleum. Pipelines used for natural gas also vary in the same range. Products distribution lines tend to be smaller, usually 6 to 8 inches in diameter. Underwater laying of pipeline poses special problems. The pipe is covered to the bottom by barges and weighted with concrete or steel anchors to overcome buoyancy. Construction of offshore pipelines, crossing many miles of open sea, is an extremely difficult task, especially in such areas as the stormy North Sea. Many ships of various types and helicopters are to be used. The service platform off the coast is the centre of the offshore system. Divers or submarines are used to perform the inspections. The flow of liquids or natural gas through pipelines is directed and regulated by control devices and valves many of which are operated from points hundreds of miles away. Pump stations are located at usually 80 to 120 km intervals to maintain flow at desired velocities.[7]

In appraising various pipelines the following factors must be taken into consideration:

- Hydrocarbon transfer routes are long-term economic instruments and cannot in time become subject to changing political consideration.
- The security of pipelines is a long-term issue. Design and construction stages must involve risk reduction. The lesser the number of transit countries on the way, the smaller the associated risks. The nature and longevity of political tensions in these countries are key factors that must be taken into account in their selection.

[7] Alois P. Altmeyer and Herbert Bucksch, *Pipeline Dictionary*, Adler, 1971, p.98

- World's future energy markets and their growth in various regions will be a critical factor in selecting the proper route with cost reduction in mind.
- Investment on pipeline production must be commensurate with the ultimate production level, a factor that will also minimise costs.
- Transfer costs must be calculated with a view to regional resources. Sensible use of these resources can actually cut expenses.

Map: Existing and proposed pipelines in Central Asia

Source: www.spinsanity.org

Existing Pipelines

Name	Route	Builders	Length	Capacity	Cost	Status
Central-Asia-Center Pipeline	Turkmenistan-Uzbekistan-Kazakhstan-Russia	Gazprom	1000 miles	3.5 tcf/y	NA	Operational since 1975
Korpezhe-Kord-Kui pipeline	Turkmenistan-Iran	Iran and Turkmenistan	124miles	282bcf/y	$200m	Operational since 1997
	Tashkent (Uzb)-Bishkek (Kyr)-Almaty (Kaz)	Soviet Union	600miles	100bcf/y	NA	Operational since Soviet era
Caspian Pipeline Consortium	Tengiz (Kaz)-Novorossiysk (Russia)	Caspian Pipeline Consortium	1600km	1.3mb/d	$2.5b	Operational since 2001
Atyrau-Samara	Uzen (Kaz)-Atyrau-Samara (Russia)	Transneft	1800miles	0.3mb/d	$50m for upgradation	Operational since Soviet era

tcf /y = trillion cubic feet per year.

bcf/y = billion cubic feet per year.

mb/d = million barrels per day.

I. Central Asia Centre Gas Pipeline

Route: - Turkmenistan via Uzbek and Kazakh to Saratov (Russia), linking to Russian natural gas pipeline system.

Details: 3.5 trillion cubic feet per year capacity.

Status: operational

The Central Asia-Center pipeline built in 1974 has two branches. The western branch delivers Turkmen natural gas from near the Caspian Sea region to the north, while the eastern branch pipes natural gas from eastern Turkmenistan and southern Uzbekistan in a northwest direction across Uzbekistan. The pipeline branches meet in western Kazakhstan, where they run further north and enter the Russian natural gas pipeline system.

Turkmenistan has been the chief exporter of natural gas via the Central Asia-centre pipeline owned by Russia's Gazprom.

Many analysts claim that Russia is Turkmenistan's best gas market. The infrastructure is already built and there is a growing short fall of supply in Russia, which is exporting as much of its own gas as it can to the lucrative European markets. Over 90 percent of Turkmenistan's natural gas exports via the pipeline go through the Eastern branch, since the majority of Turkmen natural gas production is in the Eastern part of the country, and also because the western branch of the pipeline is in poor technical condition. In 2001, Turkmenistan had planned to export 1.41 trillion cubic feet of natural gas via the Central Asia Center pipeline, including 1.06 trillion cubic feet to Ukraine and another 353 billion cubic feet to Russia. However, Turkmenistan exported only about 1.16 trillion cubic feet via this route, which Turkmen officials attributed to the limited capacity of the Kazakh segment of the pipeline[8].

Turkmenistan has sought to reconstruct compressor plants and pipeline sections of the western branch that are on its territory, but Turkmen president Saparmurad Niyazov has complained that sections of the pipeline that are in Uzbekistan and Kazakhstan are obsolete and require modernization. According to Turkmenistan, capacity on the Central Asia-Center pipeline is only about 2.4-2.5 trillion cubic feet presently due to a lack of maintenance and repair. Turkmenistan has stated that this is restraining its export capacity to the north, since the country could increase its natural gas production if the pipeline's capacity were increased. In 2002, Turkmenistan is planning to export 1.77 trillion cubic feet of natural gas via

[8] www.eia.gov

the CAC pipeline with 1.41 trillion cubic feet to be piped via Russia to Ukraine.

II. Turkmenistan-Iran Gas Pipeline

Route: Korpezhe (Turkmenistan) to Kurt-Kui (Iran)

Status: operational since 1997

Capacity: 282 billion cubic feet per year

Length: 124 miles

Cost: $ 200 million.

In December 1997, Turkmenistan launched the $ 190 million Korepezha-Kurtkui pipeline to Iran, the first natural gas export pipeline in Central Asia to bypass Russia. The 124-mile pipeline, which had an initial capacity of 141 billion cubic feet, will have a peak capacity of 282 billion cubic feet per year. In 2000, Turkmenistan exported 106 billion cubic feet to Iran via the pipeline, with that figure increasing to 154 billion cubic feet in 2001[9].

According to the terms of the 25 years contract between the two countries, Turkmenistan will pipe between 177 billion cubic feet and 212 billion cubic feet of natural gas to Iran annually, with 35 percent of Turkmen supplies allocated as payment for Iran's contribution to building the pipeline. In December 2001, the Presidents of Turkmenistan and Armenia reached an agreement by which Turkmenistan will supply up to 70. 6 billion cubic feet per year to Armenia via the Korpezhe-Kurtkui pipeline and across Iran.

[9] Rosemarie Forsythe, The Politics of Oil in the Caucasus and Central Asia: Prospects for Oil Exploration and Export in the Caspian Basin, *Adelphi Paper*, no. 300, Oxford University Press, 1996, p. 14

Implementation of this deal is contingent on the construction of a long delayed Iran Armenian natural gas pipeline.

III. Tashkent-Bishkek-Almaty Gas Pipeline

Length : 600 miles

Capacity : 100 billion cubic feet per year

Status : Operational

Uzbekistan's main natural gas export pipeline has been the Tashkent-Bishkek-Almaty pipeline, which runs through northern Kyrgyzstan to southern Kazakhstan. The pipeline is the main source of natural gas for Kyrgyzstan and southern Kazakhstan. Irregular supplies from Uzbekistan, illegal tapping of the pipeline by Kyrgyzstan and mounting debts by both Kazakhstan and Kyrgyzstan for supplies already received have led to increased tension between the three neighbours. Kyrgyzstan's agreement with Uzbekistan to supply it with water for the growing season, in addition to electricity, in exchange for natural gas supplies has served to complicate relations between the two states.

On its part, Uzbekistan periodically has cut off supplies to Kyrgyzstan in an effort to force Kyrgyzstan to pay its debts for natural gas supplies, which stood at approximately $ 1.6 million in March 2002. Kyrgyzstan has complained about the supply disruptions, which frequently occur during winter, leaving Kyrgyz consumers without adequate heat and power. Adding to the conflict, in December 2001, Kyrgyz companies illegally took 0.4 billion cubic feet of Uzbek natural gas intended for Kazakhstan. Kyrgyz

authorities explained that they had to use the natural gas following the sudden suspension of Uzbek natural gas supplies to Kyrgyzstan.

In December 2001, Kyrgyzstan agreed to turn its section of the pipeline into a concession for 10 years in payment for its debts to Kazakhstan. If Kyrgyzstan had not agreed to give its 90-mile section of the Tashkent-Bishkek-Almaty pipeline in concession, Kazakhstan had drawn up plans to start building a $ 70 million pipeline to bypass Kyrgyzstan. As a result of Kyrgyzstan's vulnerability to supply disruptions from Uzbekistan, the Kyrgyz government has begun importing more natural gas from Kazakhstan, and has also entered into negotiations with Kazakh and Russian officials about continuing to the construction of a natural gas pipeline from Russia to Kyrgyzstan. Completing the pipeline, whose construction was halted in 1991, would require $ 60 million[10].

Kazakh-Uzbek relations also have been strained over natural gas supplies via the Tashkent-Bishkek-Almaty pipeline. Kazakh officials have complained about Uzbekistan's irregular pricing policy. Uztransgaz, Uzbekistan's monopoly natural gas distribution company repeatedly has attempted to increase its prices for supplies to southern Kazakhstan. According to a February 2002 agreement, Uztransgaz will supply 46 billion cubic feet of Uzbek natural gas to southern Kazakhstan at a price of $ 40 per 1,000 cubic meters. Earlier, Uztransgaz proposed that Kazakhstan should pay $ 45 per 1,000 cubic meters. In 2001, Kazakhstan announced its intention to develop the Amangeldy natural gas in its southern regions in order to end the country's reliance on Uzbek imports.

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[10] Jennifer Delay, *The Caspian Oil Pipeline Tangle : A Steel Web of Confusion*, in Michael P Croissant and Bulent Aras (eds), Oil and Geopolitics in Caspian Sea Region, Praeger, 1999, p.61

IV. Tengiz-Novorossisk Oil Pipeline

Route: Tengiz (Kaz) to Novorossisk (Russia).

Length: 1600 km.

Cost: $2.5 billion.

After long and arduous negotiations, agreements were signed in March and April 1996 on a pipeline project that would solve Kazakhstan's export problems in the medium and long term. The project involved the constructions of a 1600 kms long pipeline linking Tengiz with Novorossiisk using some existing and some uncompleted Kazakh and Russian pipelines. This pipeline which was planned to be completed in three years at the estimated cost of some $ 1.2 to $ 2 billion.[11] Its construction was only begun in May 1999 with a forecast price tag of $ 2.2 billion. In March 2001, the Caspian Pipeline Consortium (CPC) commissioned its $2.5 billion, 1.34 million barrels per day capacity pipeline, sending oil flowing from Tengiz to Novorossiisk. After several customs problems and technical delays, the first oil was loaded onto a tanker in Novorossiisk in October 2001, and in November 2001, CPC shareholders decided on a transportation tariff of $ 26.32 per ton ($ 3.59 per barrel) per 100 kilometers. The CPC exported approximately 2,40,000 barrels per day in April 2002 with volumes expected to rise to 4,00,000 barrels per day by the end of 2002 once additional pumping stations and pipeline links are completed.

Preliminary plans are to increase exports to 5,20,000 barrels per day in 2003, but the pipeline is not scheduled to reach its full capacity of 1.34 million barrels per day until about 2015. Since both Kazakh and Russian oil

[11] Rosemarie Forsythe, ibid, p. 11

will be piped via the line creating a new 'CPC Blend' of oil, Kazakh and Russian officials created a 'quality bank' to compensate higher quality Kazakh oil exporters whose oil quality is diluted by the new blend. The Tengizchevroil joint venture will transport approximately 2,40,000 barrels per day via the pipeline in 2002, with future plans to export an additional 1,20,000 barrels per day per year from the Karachaganak field via the CPC. The pipeline faces many problems. First is war in Chechnya through which the first phase of this pipeline is passing.

Turkish officials have questioned the ability of the Bosphorus Straits to handle the planned volume of Kazakh oil to be exported via the CPC pipeline. Turkish officials have expressed environmental concerns that the straits, already a major choke point for oil tankers cannot handle the strain of additional traffic, which could lead to a tanker collision and an oil spill in the Straits. Although Kazakh officials have argued against linking oil tanker traffic through the Straits, a number of "Bosphrous bypass" options are under construction or being developed in southeastern Europe. In addition, Ukraine already has constructed a new pipeline, the Odessa-Broody pipeline, specifically to transport oil from the Caspian Sea region to European markets[12].

The Caspian Pipeline Consortium's pipeline is the first big one to be built since the fall of Soviet Union. Russia has a 24 percent stake in the pipeline consortium along with Kazakhstan (19 percent), and Oman (7 percent). Private sector oil firms participating in the consortium are: Chevron (15 percent), Lukarco (12.5 percent), Rosueft-Shell Caspian Ventures (7.5 percent), Mobil Caspian Pipeline (7.5 percent), Agip (2 percent), BG (2

[12] www.eia.gov

percent), Kazakhstan pipeline ventures (1.75 percent). According to Alexander's gas and oil connections website, this pipeline is the single largest America investment in the region[13]. The recent announcement of a large oil discovery in Kashagan off the coast of Kazakhstan has generated some excitement. When Kashagan does begin producing oil in the earnest, its export via Novorossisk through the northern pipeline from Tengiz may make far more commercial sense than Kazakh President Nazarbayev's early commitment to Baku-Ceyhan project.

V. Northern Atyrau-Samara Oil Pipeline

Route : Uzen(Kaz) - Atyrau(kaz)- Samara(Rus)

Capacity: 300,000 barrels per day

Length: 1800 miles

Prior to the opening of the CPC pipeline, Kazakhstan's only oil export line was the western Kazakhstan pipeline system, which transports oil from fields in Atyrau and Mangistan to Samara in Russia. This pipeline system runs 1800 miles from Uzen in southwestern Kazakhstan to the Caspian port of Atyrau, before crossing into Russia and linking with Russia's pipeline system at Samara on the Volga river. The pipeline's capacity was recently increased from 2,40,000 barrels per day to 3,00,000 barrels per day with the addition of some pumping stations. Although Nazarbayev said in May 1998 that the Atyrau-Orsk-Samara route was one of those Kazakhstan might use for a major export pipeline,[14]the pipeline would need more than an upgrade to turn it into a real main line. The existing pipe from Atyrau to Samara is able to carry only a fraction of the 3.4 million barrels per day Nazarbayev

[13] *The Politics of Oil in Caucasus and Central Asia*, Adelphi Paper, 1996, p.25
[14] Dmitry Solovyov, "Kazakh Leader Backs Regional Export Projects ", *Reuters*, 11 May 1998.

said Kazakhstan might be producing in 2010.[15] The possibilities for oil exports along the Atyrau-Samara oil pipeline are restricted by its throughput capacity and by the quota set by Russia. This is a constraining factor for the growth of both crude oil production and export supplies. To increase the capacity from 10 up to 15 million tones per year, a series of technical measures in Kazakhstan and Russia is being considered, involving a cost of $22 million total. A Russian institute is currently preparing a feasibility report. In recent years, Kazakhstan's exports via the Atyrau-Samara pipeline have been limited due to its competition with Russian oil exports. Kazakhstan is interested in gaining access to oil terminals in the Baltic Sea for its exports. It has been ready for a number of years to supply oil to Lithuania, but deliveries have been delayed due to the lack of an agreement with Russia on transportation tariffs. In addition to Kazakhstan's increased production capacity, Russia's interest in the long-term transit of Kazakh oil increased with the opening of Russia's Baltic Pipeline System (BPS) in December 2001. In an effort to fill the BPS and to profit from Kazakh oil transiting its territory, Russia allocated a 1,00,000 barrels per day quota of Kazakh oil for the BPS. In December 2001, Kazakhstan and Russia signed an intergovernmental agreement that makes Kazakhstan eligible to transport up to 3,50,000 barrels per day through the Russian pipeline system in 2002. The agreement states that Kazakhstan can send up to 3,00,000 b/d through the Atyrau-Samara pipeline. There is no indication that the Kazakhstan government is deeply interested is interesting much in their pipeline since the route runs through Russia, towards which Nazarbayev has mixed feelings. He has seen all too frequently that the Kremlin and most Russian oil companies (as well as their powerful friends) are simply not interested in allowing a former Russian colony to become a big oil exporter and a

[15] "Kazakhstan: Oil Exports hit 0.3 mbpd in January-May", *IPR Strategic Business Information Database*, 24 September 1997.

competitor on the world oil market. Transneft could argue with some truth that the Russian pipeline system is already full almost to the brim with Russian oil and that it would take time to find room for crude from Tengiz. However, this line of argument lost weight when Tengiz Chevroil (TCO) discovered that Transneft had allowed Tengiz oil to mingle with lower quality Russian crude from fields in the Urals on the way to Samara.[16]Transneft reportedly reneged on a promise to let TCO export 9 million metric tons of oil through Russia per year.

PROPOSED NATURAL GAS PIPELINES

Name	Route	Builders	Length	Capacity	Cost	Status
	Turkmenistan-Iran-Turkey	Royal Dutch Shell, Gaz de France, Snamprogetti, Turkmenistan	1875miles	15bcm/y	$3 b	Stalled
Cent-gas	Daulatabad (Turkmenistan) -Herat (Afgh)-Multan (Pak)-could be extended to India	UNOCOL, Delta Oil and Turkmenrozgaz	937 miles	2bcf/d	$2.5 b	Suspended
Trans-Caspian	Turkmenbashy-Baku (Azer)-Tbilisi (Georgia)-Erzurum (Turkey)	Enron, Wing Merril, Botas, Gama Guris	1020 miles	1.1tcf/y	$2.5b	Contract signed in 1999
	Turkmenistan-Uzbekistan-China	CNPC, Exxon, Mitsubishi	4200miles	1 tcf/y	$10 b	Feasibility study over.

[16] Jennifer Delay, ibid, p.63

VI. Turkmenistan-Iran-Turkey Pipeline

Route: Turkmenistan-Iran-Turkey

Length: 1875 miles

Cost: US $ 2 billion

Status: Stalled

Since 1993, Turkmenistan has promoted the idea of building a gas export pipeline from Turkmenistan via Iran to Turkey. In 1993 and 1994, the government tried to get an ambitious two-stage project off the ground. Initially, a system with a capacity of 15 billion cubic metre per year would be built with a view to supplying the Turkish market. In time, the capacity of the system would be increased to 28 billion cubic meter per year with a view to supplying markets further west. The preferred route of the Turkmens to export oil and more so gas, was through a major pipeline to be built across Iran and Turkey to reach the Balkan and Western Europe. First agreement was signed in January 1994 between Iran and Turkmenistan[17] followed by several others involving Turkey as well. American opposition to Iran, however, has delayed the project by making it impossible to finance. Nevertheless, a small stretch of 140 km, linking the Turkmen and Iranian networks, was completed in December 1997. A major diplomatic roadblock appeared to be removed in July 1997 when the US announced that the projected pipeline did not violate the American embargo against Iran, although subsequent American opposition dashed hopes for early implementation. Once built, this pipeline would transport 30 billion cubic meter of gas a year over a 30-year period. The cost of the pipeline was

[17] James P. Dorian, Ian Schefield Rosi and S. Tony Indriyanto, "Central Asia's Oil and Gas Pipeline Network: Current and Future Flows", *Post Soviet Geography*, 35, No. 7, September 1994, p. 425.

estimated by John Roberts at $ 9 billion, with some $ 3.5 billion for the 1400 km long Iranian section alone.[18]

The Ministry of Oil and Gas Industry and Mineral resources of Turkmenistan and the Ministry of Oil of the Islamic Republic of Iran have completed the feasibility report for the pipeline from Turkmenistan to Turkey. In order to organise the financing, construction and operation of the pipelines, an international coalition will be created with the participation of Turkmen, Iranian and Turkish companies as well as other international companies and financial institution. At present, the charter of the company is being drafted for approval by shareholders. However, funding remains an insurmountable problem; international financial institution, foreign private lenders and foreign companies alike refused to participate in a scheme involving Iran, and neither Turkmenistan nor Iran could afford to foot the bill. Currently, the basic idea is being pursued through a series of less grandiose schemes, namely the construction of a pipeline from Turkmenistan to north-east Iran feeding gas into the Iranian transmission pipeline network, continuing from Tabriz in north west Iran to the Iran-Turkey border, onward to Erzusum in eastern Turkey, ending in Ankara. The Turkmenistan president hopes that a much longer pipeline stretching 3000km or more from the Daulatabad field to the Bulgarian-Turkish border may follow and he has already tapped Royal Dutch Shell to study the route. This pipeline, which would cross all of Turkey as well as the northwestern corner of Iran, will cost at least $2-5 billion to build.

[18] John Roberts, *Caspian Pipelines*, London, RIIA, 1996, p. 2

VII. Central Asia Gas Pipeline

Route: Daulatabad (Turkmenistan)-Heart (Afghanistan)-Multan (Pakistan) (could be extended to India)

Length: 1400 km

Cost: $ 2.5 billion

Status: suspended.

In October 1997, UNOCAL set up the Central Asia gas pipeline (Centgas) consortium to build a pipeline from Turkmenistan across Afghanistan to Pakistan. However, in early August 1998, UNOCAL announced that Centgas had not secured the financing necessary to begin the work, and on August 22, 1998, Unocal suspended construction plans for the pipeline due to the continuing civil war in Afghanistan and the US missile attacks on suspected terrorist training camps.[19]

The proposed 48-inch pipelines will connect the Daulatabad gas fields in southeast Turkmenistan to Multan in central Pakistan. It is also proposed that it may be extended 600 km into India after traversing 750 kms through Afghanistan. Reportedly the expected capacity of the pipeline will be 2 billion cubic feet per day. The Turkmenistan government with a share of 7 percent in the consortium on its part has guaranteed deliverability of 25 trillion cubic feet of natural gas exclusively for the Centgas pipeline. It has signed a deal with the consortium comprising UNOCAL (47 percent share), Delta of Saudi Arabia (15 percent share), Itochu of Japan (6.5 percent), Gazprom of Russia (16.5 percent), Impex of Japan (6.5 percent), Hyundai of South Korea (5 percent) and Crescent of Pakistan (3.5 percent). Talks on the

[19] www.eia.gov

above proposal between Turkmenistan and Pakistan have been going on for many years but have been hampered by the ongoing war in Afghanistan.[20] Many political observers of the US war in Afghanistan have voiced suspicion that the true aim of the fossil fuel friendly Bush administration's 'war on terrorism' is to clear the way for such a pipeline. The US policy is also to keep a new pipeline out of Iran at any costs.

In August 1998, UNOCAL halted developments of the project after US forces fired missiles at guerrilla camps in Afghanistan in the wake of bomb attacks on two US embassies in Africa. Prior to stepping down from the Centgas project, Unocal was targeted by human rights group for its dealings with the Taliban. One of their consultants in the company's 1997 conversations with the Taliban was Afghan born Zalmay Khalilzad, who was appointed his Special Envoy by president George W. Bush to Afghanistan on December 31, 2001. As an adviser for Unocal, Khalilzad drew up a risk analysis of the proposed gas pipeline from Turkmenistan across Afghanistan. Until recently, the pipeline was considered effectively dead, but with a fragile peace in Afghanistan established and the Taliban removed from power, the idea of a trans-Afghan pipeline has been revived. Under the original plans, a 460-mile stretch of pipeline, which would have a capacity of between 706 billion cubic feet and 106 trillion cubic feet, would cross Afghan territory. Approximately, 12 percent of the pipeline's capacity would be reserved for Afghan natural gas.

Just how much the consortium stands to gain depends on many factors, especially fluctuations in the price and demand for natural gas in the markets of East and Southeast Asia. But there are clearly huge profits to be

[20] Corpwatch, June 28, 2002.

made. And for Pakistan and Turkmenistan as well as Afghanistan, the project would be immensely beneficial. For Afghanistan, it would be the first major foreign investment since the Soviet invasion in 1979. For Pakistan, it could be a key to the next stage of industrialization. According to the World Bank president, the international lending institution might be interested in such a project. Western governments are also taking a keen interest. It is estimated that Afghanistan could earn US $100-150 million a year in transit fees. Turkmen President Saparmurad Niyazov and interim Afghan leader Hamid Karzai have expressed their support for the pipeline. Uzbek president is also on record advocating the pipeline. In March 2002, Karzai, Niyazov and Pakistan president Pervez Musharraf agreed to hold trilateral talks on the pipeline proposal at the end of May 2002.

VIII. Trans-Caspian Gas Pipeline

Route:(Turkmenbashi)Turkmenistan-(Baku)Azerbaijan-(Tblisi)Georgia-(Erzurum)Turkey

Cost: US $2.5 billion,

Length:1020 miles

Status: Contract for a Turkmenistan turkey pipeline under the Caspian Sea signed in 1999 by consortium made up of Beehtel Group and GE.

As part of its strategy to increase its natural gas exports, Turkmenistan is developing alternatives to Russia's pipeline network. Among the proposals is the Trans-Caspian gas pipeline (TCGP), which would run from Turkmenistan under the Caspian Sea to Azerbaijan, through Georgia and then to Turkey. The pipeline's initial natural gas throughout would be 565 billion cubic feet per year, eventually rising to 1.1 trillion cubic feet.

According to a feasibility study conducted by an American company, the sub Caspian pipeline connecting the gas fields of eastern Turkmenistan and Erzerum in Turkey will have a total length of 2,000 km and an initial capacity of 10 billion cubic metre per year to be increased to 30 billion cubic metre per year at a cost of approximately $ 2.5 to $ 3 billion. A contract was signed between Turkmenistan and various companies involved in the project on 19 February 1999,[21] only to be shelved later. Washington keenly supported the pipeline project because it bypasses Russia and Iran. President Niyazov, frustrated by the lack of progress in this US backed project, agreed in February 2000 to supply vast volumes of Turkmen gas to Russia over 30 years. However, he had already pledged in 1999 to supply the trans-Caspian with an eventual 30 billion cubic metre a year. Turkmenistan's willingness to consider this option under US pressure has irked Tehran (and Russia), but it has elicited applause from Washington. The US government has even declared itself willing to underwrite the cost of such a pipeline; it offered the government of Turkmenistan $ 7,50,000 to conduct a feasibility study in April 1998 and the US export-import bank said later that it might be willing to provide up to $ 3 billion to cover the costs of pipeline construction.

TCGP has encountered numerous problems, including competition with Azeri and Russian natural gas to supply the Turkish natural gas market. Russia's 'Blue Stream' pipeline to Turkey is nearly completed and construction on the Baku-Erzurum natural gas pipeline is scheduled to begin in 2002. Although Azerbaijan and Turkmenistan resumed talks on the TCGP in October 2001, the lack of a legal framework governing the use of the

[21] Enron Submits Feasibility Study for TCGP, *The Jamestown Monitor*, 5, No. 19, 28 January 1999.

Caspian Sea continues to complicate the issue of constructing the pipeline. In addition, several of the Caspian littoral states are opposed to trans-Caucasian pipeline on environmental grounds.[22]

Turkmenistan must decide whether it wants to get involved in the pipeline tangles of the Trans-Caucasus before it commits itself to shipping oil across the Caspian. It must also decide whether it wants to ride out Russian and Iranian objections to the plan. Furthermore, it must push forward with efforts to upgrade port facilities and an oil storage system and refinery in Turkmenbashi, the likely starting point of any Trans-Caspian pipeline to Baku. Unless these decisions are made, it is unlikely that the Trans-Caspian route will offer much more of a solution for the Turkmen oil industry than any of the other plans under construction.[23]

In February 1999, the Turkmenistan government officially chose GE and Bechtel of the US to head the project. The two companies have set up a construction called PSG international to build the pipeline, but they have yet to select other partners or to secure funding.[24] Meanwhile, Ashkabad and Baku have yet to resolve their quarrel over how to divide the Caspian Sea.

Pipelines to China

The Chinese government aims to diversify the country's energy supplies though construction of pipelines to transport oil and gas from Russia and Central Asia. Presumably, pipelines that circumvent the US dominated shipping lanes will decrease China's vulnerability to disruption of sea borne oil supplies. In the meantime, China's demand for oil will continue

[22] www.eia.gov
[23] Jennifer Delay, ibid, p.64
[24] Marat Crust, "US Group Sees Turkmen Pipeline Ready by 2002", *Reuters*, 17 June 1999.

to grow. The government predicts that the country's oil imports will double in the next ten years. In the northwestern Xinjiang province of China, despite earlier prediction of massive oil resources in the Tarim Basin, recent evidence suggests that actual reserves are more modest. China has completed the feasibility study of two pipeline projects in Central Asia.These are the longest pipeline routes proposed. These face technological and environmental challenges. The feasibility study of the line started in 1997. The pipelines originating from Turkmenistan and Kazakhstan to East China was designed by Japanese Mitsubishi Corporation in 1992. These eastward pipelines are under consideration by CNPC (China), Exxon and Mitsubishi Corporation.

IX. Turkmenistan-China Gas Pipeline

One of the most significant commitments that Chinese Premier Li Peng made during his visit to Turkmenistan in April 1994 was for the construction of a gas pipeline to connect the gas fields of Turkmenistan with China. Turkmen President Saparmurad Niyazov had energetically promoted this project costing about $ 10 billion and up to 4200 miles in length in two earlier visits to Beijing where he had apparently gained the support of Ziang Zemin.[25]

X. Kazakhstan-China Oil Pipeline

After being named as the winner of two privatization tenders for regional oil producers in Kazakhstan-Uzenmunaigaz and Aktobemunaigaz the Chinese state company announced that a large part of the $ 9.5 billion it

[25] Philip Andrew, Xuanli Liao and Roland Davnreuther, "The Strategic Implications of China's Energy Needs", *Adelphi Paper*, No. 456, 2002, p.55

had promised to invest would be used to construct a 3000 km pipeline from western Kazakhstan to Xinjiang autonomous region in north western China that borders on Kazakhstan, Kyrgyzstan and Tajikistan. Some 600 km of the pipeline worth $ 300 million were already in place as of spring 1998; the CNPC will have to lay about 2400 km of pipe at a cost of at least $2.7 billion. Once the line is finished, it will be able to carry 20 million tones of oil per year. The final agreement on construction was signed in the spring of 1999.

China is seriously considering the pipeline from Aktyubinsk in western Kazakhstan to Karamai in Xinjiang on agreements for which was signed in September 1999. Under the agreement CNPC is to complete the construction of the pipeline by 2005. It is expected that this pipeline would help Kazakhstan to enter world oil markets, which will enable China to unfold her ambitious plan as well. The oil pipeline that extends 1800 miles is expected to cost between $3- 3.5 billion. It is China's hope that oil supply in Chinese Xinjiang could be increased to 40 million tones taking Central Asian imports into account. Therefore, construction of the eastern pipeline would be economically feasible. Xinjiang's refining and petro-chemical industries would be boosted accordingly in the future.

The enormous projected cost of the pipeline, the problem of raising the capital and the inherent political risk of a pipeline, which would traverse Turkmenistan and Kazakhstan, has meant that little progress has been made. The oil pipeline project was stalled in September 1999 because Kazakhstan could not commit sufficient oil flows for the next 10 years. The deal, commercially unattractive, can only go if China is to continue viewing Kazakhtan option as a strategic necessity. All indications to date point to

China's commitment to the proposed pipeline. However, financing the project can prove much harder than the Chinese had originally anticipated. This is the only route that seems to have no rival or enemy despite the fact that it can cause China's influence to rapidly grow in the Caspian region.[26]

If the pipeline is completed, it will be the longest oil transport link in the world. Kazakhstan believes the project worthwhile; China's demand for oil is expected to skyrocket in coming years as both the population and the economy continue to grow. Moreover, the pipeline might also prove a welcome addition to Kazakhstan's underdeveloped and over loaded domestic oil industry i.e. it might make transport of fuel from faraway western Kazakhstan to population centers in eastern and south central Kazakhstan an easier process.[27]

The CNPC will be lucky if its ambitious pipeline project does not encounter political, financial and technical obstacles on a grand scale. The pipeline will pass through and terminate in an isolated and poor region where the majority of the population in Uighurs. This Turkic group distantly related to the Kazakhs has been agitating for independence from China. The fact that a number of Uighur exiles have set up shop in Almaty has occasionally been a source of friction in China-Kazakhstan relations. The Uighur issue aside, pipeline construction has never been undertaken on such a vast scale. There is ample reason to doubt that a 3000 km steel pipe can be built through an isolated swath of Asia precisely on schedule, within budget and to specification.[28]

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[26] Hooshang Amirahmadi, "Pipeline Politics in the Caspian Region", in *The Caspian Region at a Crossroad*, Macmillan, 2000, p. 170.
[27] Alexander Akimov, "Central Asia as a Region in the World Energy", in Sagdeev and Eisenhower (eds.), *Central Asia: Conflict Resolution and Change*, pp. 225-291
[28] Jennifer Delay, ibid, p.67

Proposed Oil Pipelines

Name	Route	Builders	Length	Capacity	Cost	Status
	Kazakhstan-China	CNPC	1800 miles	0.4mb/d	$3.5b	Feasibility study over
Kazakhstan-Iran	Uzen (Kaz)-Turkmenistan-Kharg Island (Iran) in Persian Gulf	Governments of Iran and Kazakhstan	930miles	1 mb/d	$1.5 b	Feasibility study by Total Fina Elf.
Iranian Oil Swap pipeline	Caspian Coast of Iran to Persian Gulf	Iran	400 miles	150000 b/d	$500m	Under upgradation
Central Asia Oil Pipeline	Kazakhstan-Turkmenistan-Afghanistan-Gwadar (Pak)	UNOCAL, Delta	1040miles	1mb/d	NA	Stalled.
Trans-Caspian	Aqtau (Kaz)-Baku (Azer)-Ceyhan (Turkey)	Mobil, Shell, Chevron, Kazakhstan	370 miles to Baku	NA	$2 b	Under feasibility study

XI. Kazakh-Iran Southern Pipeline

Route: Uzen' oil field in Kazakhstan via Turkmenistan to Khorg island of Iran in Persian Gulf

Length: 930 miles

Capacity: 1 mb/d

Cost: $ 1.5 billion

Status: feasibility study by total Fina Elf.

From a purely practical point of view this is the most sensible option with the shortest distance as it is able to plug into the Iranian pipeline system

and it provides access to the growing South, Asian market. This project is opposed by the US, both because of its hostility to Iran and because it does not represent a diversification of energy sources, which is a US goal. In September 1997, China announced it would invest $ 9.5 billion in a series of energy plans involving Kazakhstan, including a 250 km oil pipeline through Turkmenistan to Iran for shipment to the Gulf. The new pipeline would carry oil, allowing tankers to supply China with oil to meet its vast energy needs. Over the years, Turkmenistan has tried repeatedly to make the case that trans-Iran pipelines are a matter of survival for the Central Asian Republics. US oil companies, which have invested in Caspian Oil projects with Azerbaijan are also lobbying behind the scenes for an Iranian export option, while they continue to pursue western routes to the Mediterranean publicly.[29]

The pipeline would be completed in two phases. It would not have to go down up to the Persian Gulf because it could be connected into the existent network of southern Iranian pipeline, which would be redirected to send the oil south to the Persian Gulf. From there it could be shipped to markets in either the east or the west. Completion of phase one would require approximately $ 320 m to build 390 kilometers of pipelines inside Iran and have a capacity of 8,40,000 barrels per day. The second phase from Kazakhstan to Neka would require approximately $ 1.2 billion to build 1,500 kilometers of pipeline and have a capacity of 1 million barrels per day. Thus both phases combined would require $ 1.5 billion to build nearly 1,900 kilometers of pipeline and carry 1.8 mb/d

Iranian routes are cheaper to build, pass relatively safer territories and pose no serious environmental hazard. Significant pipeline and port

[29] Michael Lelyveld, "Turkmenistan: China Plans to Aid Construction of Iranian Pipeline", www.rberl.com

infrastructure also exist. Oil companies and governments worry that the southern option increases the world's reliance on the Strait of Hormuz, a concern that can be addressed by linking the pipelines from Central Asia to the port of Jask on the Oman Sea. Certain geologists have also argued against the line because of possible seismic problems in Iran. Iranian route is most viable and this line of argument has won adherents in Europe and even in the US where government officials put substantial amounts of energy and resources into discouraging contacts between the Central Asian states and Tehran and a small army of lobbyists and oil executives embraced it.[30] The attraction of he Iranian route proved so strong and the efforts to build pipelines in other directions so frustrating that discussion began, especially since late July 1997.

XII. Kazakh- Iran Oil Swap Pipeline

Capacity : 1,50,000 b/d

Status : Neka-Tehran oil swap pipeline in Iran under construction.

An export option for Kazakhstan is to implement an existing oil swap arrangement with Iran. Under a 1996 agreement, up to 1,20,000 barrels per day of Kazakh oil was to be delivered by tanker via the Caspian Sea to the Iranian port of Neka, where it would travel by pipeline to a refinery at Tabriz to be refined and consumed locally. In exchange, Kazakhstan would receive a similar volume of crude ready for export at an Iranian port in the Persian Gulf. Kazakhstan and Iran have been trying to negotiate a supply deal for years, but previously Kazakh crude has proved to be incompatible with Iranian refineries and there have been disagreements over price. In the first

[30] Jennifer Delay, *ibid*, p.68

quarter of 2002, Kazakhstan began making test deliveries to Neka of about 1,600 barrels per day.

A major problem with the Iran route is US sanctions against Iran. US oil firms are prohibited from investing in the Iranian oil sector, and the Iran-Libya Sanctions Act (ILSA) seeks to penalize non-US firms from doing business with Iran. Previous cases of swap arrangements between Turkmenistan and Iran have been judged to violate ILSA and it remains to be seen whether Kazakhstan will choose to implement its swap arrangement with Iran further.

Tehran has been much more willing to discuss swaps than pipelines. No international oil companies have yet begun talks on building transit pipelines through Iran from Caspian to the Persian Gulf. So Iran is trying to convince Central Asian oil producers and foreign companies working in the region to set up on-the-spot swaps. Under this arrangement, the Iranian side would take delivery of Caspian oil, send it to Tehran and/or Tabriz for processing and distribution and then make an equivalent amount of crude available in the producer's name at the Kharg Island terminal in the Persian Gulf (or in some cases, Iranian storage facilities in Rotterdam). Tehran likes swaps became they offer relatively easy way both to supply the northern, more heavily populated region of the country which are far from the big fields in the south- with crude oil and refined products and to put more Iranian oil on the world market, even if it is being sold on another's behalf.

Swaps could help keep Iran's big cities supplied with gasoline, make Kazakhstan and other Central Asian countries dependent on Iranian markets and transport routes and raise Iran's profile in the Persian Gulf. The Iranian government would soon open a $ 400 million pipeline that would be capable

of carrying approximately 3,50,000 barrels per day from Neka to Tehran. It is said that soon after the completion of this pipeline, more oil could be swapped if the flow of some existing pipelines was reversed and the Isfahan and Asak oil refineries hooked into a network around the 392 km Neka-Tehran pipeline. The difficulties and delays experienced by both Kazakhstan and Iran in carrying out a relatively minor swap deal may indicate that transport of Caspian oil through Iran will prove more costly, confusing and time consuming than it looks on the map.[31]

XIII. Central Asia Oil Pipeline

Route: Kazakhstan-Turkmenistan-Afghanistan- Gwadar (Pakistan)

Status: MOU signed by the countries: project stalled by regional instability an lack of financing.

Length: 1040 miles

Capacity : 1 million barrels per day

This pipeline links Chardzhou in Turkmenistan to Russia's existing oil pipelines in Kazakhstan and also to the Pakistani Arabian Sea coast. It will run parallel to the proposed gas pipeline route through Afghanistan. This pipeline is also planned by UNOCAL. This pipeline will carry 1 million barrel of oil a day from different areas of former Soviet republics.

This project remains highly doubtful according to US Energy Information Administration. At a glance, investment in and revenues from pipeline projects crossing Afghanistan could improve economic stability and encourage the inflow of foreign capital at a critical time. But the reservations

[31] Jennifer Delay, ibid, p.69

of the international investment community, wary of becoming involved in a still volatile area, suggest enthusiasm about pipeline projects in the country may be premature. Schemes to build pipelines in Afghanistan could be to Russia's detriment and it is unlikely Moscow would support any such scheme, especially given its major pipeline plans and their importance to the national economy. UNOCAL and Delta of Saudi Arabia argue that this is the most logical route for supplying Central Asian, Russian and Azeri crude to the rapidly growing Asian oil markets. They also plan to build a gas export pipeline from southwestern Turkmenistan to Multan in Pakistan and they see a potential for synergism between the two projects.

The pipeline would originate at Chordzhou in eastern Turkmenistan, the site of one of the country's two refineries and the terminus of a pipeline carrying mainly Russian crude oil to refineries in Kazakhstan and Turkmenistan. It will run southward through the area where the bulk of Turkmenistan's gas reserves are located, enter Afghanistan north of Herat, continue southward parallel to the Afghan-Iranian border, enter Pakistan's Baluchistan province and extend southward onto the coast. With a total length of about 1,670 km, the line would have to transit some 700 km of Afghan territory.[32]

Kazakhstan has given relatively little thought to the prospect for exporting oil to the huge (and growing) energy markets of South Asia and its ties to the oil industry of the region have still not developed to a great degree. Kazakhstan will have to clear up several matters before pursuing this export route. First, it will have to decide how to send its oil to Turkmenistan. Unless Kazakhstan builds up its tanker fleet and transports oil from Atyrau

[32] Ottar Skagen, "Survey of Caspian's Oil and Gas Resources" in Hooshang Amirahmadi (ed.), *The Caspian Region at a Crossroad*, Macmillan, 2000, p. 71.

to Turkmenbashi by sea, it will have to expand and improve its own domestic pipeline system in order to send oil to Turkmenistan. Second, Kazakhstani officials must decide whether the proceeds from any oil that might be exported along this route are greater than the potential costs of involvement in the afghan war and all other hitches that have greeted Turkmenistan on the way to Arabian Sea.[33]

XIV. Western-Trans-Caspian Pipeline

Route: Aqtau (western Kazakhstan on Caspian Coast) to Baku would be extended to Ceyhan (Turkey)

Length: 370 miles to Baku

Cost: $2 billion

In October 1998, the leaders from Caspian Sea area signed the Ankara Declaration concerning the Baku-Ceyhan pipeline. In December 1998, Mobil, Shell and Chevron together with Kazakhstan Oil started preparations for sub-sea oil and gas pipeline projects to be connected with the Baku-Ceyhan pipeline. Feasibility study agreement was signed and the construction of the oil pipeline was to be completed by 2003. But the project was stalled by lack of Caspian Sea legal agreement.

Chevron, as the leader of the group developing Tengiz oil field is unsatisfied with the combination of tankers, local pipelines and rails to transport oil to Baku. The amount of oil that can be transported in this fashion is limited. Washington's disfavour to Iran pressed Kazakhstan to opt for an underwater pipeline across Caspian. It is generally believed that at

[33] Jennifer Delay, ibid, p.70

least $ 2 to $ 2.5 billion will be required in as expensive as the CPC line. Laying a pipeline across the Caspian from Kazakhstan's coast of Azerbaijan would be expensive and technically difficult because of sub Sea Mountains. So the construction of a trans-Caspian oil pipelines may take years. The Baku-Ceyhan pipeline, which began construction in October, will be economically viable with or without oil from Kazakhstan. So barges or railway lines would be the routes to Azerbaijan, for some years, for exports destined for Ceyhan.

There was also some confusion at first over where such a pipeline might begin- at the Kazakhstani port of Aktau or further south in Turkmenbashi. Turkmenistan's main outlet on the Caspian Sea. But statements made by Kazakhstani official in the spring of 1998 indicate that Nazarbayev's government assumes that the export pipelines for Kazak oil will originate in Aktau, where a programme funded by European bank for Reconstruction and Development (EBRD) to upgrade port facilities is underway. Turkmenistan is also looking into building a trans-Caspian pipeline to Baku from Turkmenbashi, so two such pipelines may well be built. The US government seems determined to realize these pipelines. It has offered more financial support for the undertaking to Turkmenistan, which has already laid one pipeline from Korpezhe to Kurt-Kui in Iran.

Russia and Iran for their own reasons have argued vociferously against construction of an underwater pipeline across the Caspian pointing out with some justification that such a project could prove hazardous to the Sea's ecosystem, which has been under considerable strain since well before the breakup of the Soviet Union. They have also stressed the great cost of building such a pipeline Russian and Iranian arguments aside, there is also

some question as to whether Kazakhstan really wants to subject its oil exporter to the full brunt of pressures and politicking that have buffeted the Azerbaijani oil sector. In any case, the Kazakhstani government has some time to decide how far it will go with this plan.[34] Tanker shipments of Tengiz oil across the Caspian were suspended in February 1999 because the Azerbaijani government was slow to address complaints from TCO about high transit tariffs.[35]

PROBLEMS IN PIPELINE BUILDING

Legal Status of the Caspian Sea

There exist different interpretations of the status of the Caspian Sea: whether it is a sea or a lake. It is also being intensely argued whether it is covered by the Geneva Convention on the Sea shelf of 1958 and the UN law of the Sea Convention of 1982; whether Caspian resources belong to appropriate littoral states, or should be equally distributed between all of them etc.

The Russian Foreign Ministry keeps asserting that the Caspian Sea should have a unique legal status going beyond any existing international norms and customs and in particular, that all littoral states should come to unanimous decisions on the use of its resources. Moscow is also proposing to extend national sectors in the Caspian Sea to a forty-mile limit.

Azerbaijan's position is significantly different from that of Russia. Baku is resolutely asserting the right of every littoral state to establish its

[34] Jennifer Delay, ibid, p.62
[35] Chevron Seeks Deeper Oil Transit Fee Cut, *Reuters*, 22 February 1999.

sovereignty over respective areas of the Sea. In Azeri's view, the Caspian Sea falls under the internationally accepted definition of a border state.

Kazakhstan regards the Caspian Sea as an inland sea. It was also insisting that every littoral state should be totally independent in resolving all issues related to the exploration and exploitation of resources in its zone of the sea shelf. Iran supports the Russian thesis on the unique nature of the sea and the inapplicability of customary international norms in its case. Turkmenistan has not yet presented any elaborate concept of the Caspian Sea legal status. However, there are many indications that Turkmenistan may move toward Russian and Iranian positions on the issue.[36]

Environmental Problems

Oil resources under and around Caspian Sea are a curse for its environment. In addition to the coastal and offshore oil development and transportation, there are numerous sources of land-based pollution that lead to environmental problems in Central Asia and Caspian.[37] The physiographic and ecological characteristics of the Caspian as a natural system are clearly at odds with present political boundaries and institutions. Rampant poverty in the region, augmented by lack of appropriate laws and capacity for enforcement, make the unsustainable exploitation of the natural resources a very real threat to a unique ecology. The rise of the Caspian sea water level contributes not only to economic loss by damaging agricultural land, infrastructure and buildings, but also increases pollution as some of the most polluted lands of the former soviet union are in the immediate vicinity. Thus

[36] Andrei Shounikin, "Economics and Politics of Developing Caspian Oil Resources", www.spinsanity.org
[37] Lenent Hekimoglu, "Caspian Oil and the Environment" in Michael P. Croisant and Bulent Aras (eds.) *Oil and Geopolitics in the Caspian Sea Region*, Praeger, 1999, p.83

far the causes of the high pollution levels of the Caspian waters have been industrial wastes and untreated sewerage poured into the sea.

Regional Instability

Central Asia is engrossed in political and economic instability. War in Afghanistan, terrorism in Chechnya, secessionism in Xinjiang and Nagorno-Karabach conflicts has increased the instability of the region. The autocratic regimes of Central Asia could not impart peace and economic stability to the Central Asian countries. Internal political tension of Iran and Turkey (like Kurdish separatism) may equally threaten pipeline safety. The pipelines and related economic activities do not guarantee stability of the Central Asian states. The broad masses may not see much of the billions in profits that are to be made from the exploitation of oil and natural gas resources. Much of these riches would flow directly into the pockets of the international oil concerns, their local agents, government officials and mafia elements. There is more probability for the social tensions within these relatively backward countries to intensify and conflicts between the multi-ethnic states to mount. Local warlords-acting either on his own or with the support of foreign powers- may come forward to state their claim to oil revenues under the cover of a struggle for national ethnic or religious liberation.

Terrorism

Terrorist masterminds have always been aware of the importance of oil and gas resources for their own political and economic needs. According to some analysts, the terrorist assault on the US has darkened prospects over the petroleum business in Central Asia. Terrorist threat in Central Asia tends

to restrain new capital investment because American companies invested in the Caucasus and Central Asia in order to gain alternative energy sources outside the presumably volatile Middle East but as Afghanistan has become the focus of American military activity, the Caspian region may be more unstable than the Gulf.[38]

Uncertainty about Resources

Even if Central Asia quickly stabilises, oil barons and seekers of energy security may end up disappointed. Estimates of what is underground in Kazakhstan, Turkmenistan and Uzbekistan range wildly. Some US analysts argue that the region holds between 150 and 200 billion barrels. Rice University's Baker Institute for Public Policy pegs the region's proven reserves at between 15 and 30 billion barrels.Central Asia will likely never become one of world's top oil producing regions. The region will only supply 3 to 4 million barrels per day to the world by 2010. Even if the region produces double than the expectations of optimists, Central Asian yields will still lag far behind the Persian Gulf countries, which exported 17.5 barrels per day in 2000.

[38] Alec Appelbaum, "Uncertainty Dampens Caspian Basin Investment Climate", Eurasia.net, 4 October 2001.

CHAPTER III

ECONOMICS OF PIPELINES

The economies of Kazakhstan and Turkmenistan are to a large extent dependent on energy exports. However, as both the countries are land locked, the only way by which they can export these natural resources is only through laying Pipelines through neighbouring countries. Nevertheless laying Pipelines can be economical in the long run, only if sufficient amount of oil and natural gas flows through them. The amount of energy flows through pipelines is determined by their proximity to various oil fields, understanding between supplier countries and also political stability along the routes. The pipelines contribute to economic growth by providing export routes, transit fees, foreign investments and tax revenue to the region through which they pass. The economy of pipelines is also related to their proximity to markets and international oil prices.

Cost of Pipelines

From a purely economic perspective, a major factor likely to shape the tempo and extent of the development of the Central Asian energy fields is the costs associated with prospecting, exploration, extraction and transportation of oil and gas. Although there is a general lack of hard data, several factors are likely to increase the developmental costs of Central Asian oil to place it among the most expensive in the world. A prime factor contributing to high cost is that the bulk of new exploration in Kazakhstan is focused on offshore fields. Thus, the development of oil deposits under the

Caspian requires highly sophisticated and expensive infrastructures such as the newly ordered drilling unit to be used by a group of companies in Azerbaijan, with a projected cost of $180 million. More specifically, the average cost of a single offshore exploratory well is estimated at $20 million.[1]

The development of Kazakhstan's Kashagan offshore field provides a prime illustration of the immense investment required for working in the Caspian environment. By late 1999, over $ 600 million had been spent without the actual onset of drilling operations. Of this amount, $ 300 million was spent in 1993-1994 on seismic studies and $ 300 million in 1998-1999 on preparations for drilling. The cost of the rig and support systems during drilling operations is estimated at $2,50,000 per day. The full dimensions of this corporate gamble become explicit when participation fees are added to the total cost of doing business. A case in point is the $500 million paid by Phillips and Impex to the Kazakhstan government in 1998 for the privilege of joining the consortium of companies working in the Kashagan area. After making these massive investments, the companies discovered in November 2000 that the presence of gas and sulphur would delay or cancel Kashagan's development unless technical problems were resolved. Although production costs at existing fields are relatively low at around $5 per barrel, estimated costs for additional production place the Caspian countries at the high end of the spectrum. Thus, the capital cost per daily barrel of oil beyond peak production capacity is $ 12000-$14000 for Kazakhstan. Although these figures are somewhat lower than North Sea production costs, they are much

[1] R. Hrair Dekmajian and Hrann H Simonian, *Troubled Waters: The Geopolitics of the Caspian Region*, I. B. Tauris, 2001, p. 34

higher than those of Iraq ($1000), Kuwait ($3000), Saudi Arabia ($2500-$4000), Venezuela ($5000), Gabon ($6000) and Iran ($8000).[2]

Cost calculations are further complicated by the landlocked situation of Central Asia and the deterioration of existing networks.New sets of expensive pipelines is to be built to take the energy to the market place. Pipelines, more than any other form of transport of oil and gas, are a highly complex enterprise. According to Sanle Omarova, the peculiar attributes of pipeline transportation are, "high investment costs, a high degree of inflexibility and significant economies of scale. Once the pipeline is built, its route cannot be changed- it is a fixed and highly product-specific investment.... Even refurbishing an oil pipeline for transporting natural gas is very expensive. Constructions of compressors along the pipeline alone would incur high additional costs. Moreover, the specific design of a pipeline depends on the type and the quantities of oil to be shipped through it".[3] The required length of pipelines and demanding physical terrain will result in high capital and maintenance costs. Further, transit fees have to be paid to countries traversed by pipelines as well as management fees at maritime terminals. Added to these costs are the royalties and management costs to be paid to foreign companies responsible for financing and developing the oilfields and pipelines. All of these factors will reduce the share of the Caspian Sea countries to one third of the actual sale price of their crude oil. Under these circumstances, a lower crude price can have detrimental effects on the prospects of oil and gas development in the region.

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[2] International Energy Agency, Caspian Oil and Gas: The Supply Potential of Central Asia and Trans-Caucasia, Paris, OECD Publications, 1998, p. 47

[3] Sanle Omarova, "Oil, Pipelines and the Scramble for the Caspian", in *Space and Transport in the World System*, Paul S. Guantell an Stephan G bunker, (eds.), West port, CT: Greenwood Press, 1998, p. 179

Benefits From Pipelines

In 1997, when world oil prices where $ 21 per barrel, Kazakhstan would have netted only $7.6 per barrel that is, the Central Asian countries net profit on a barrel of crude oil is up to $13-14 lesser than the international market price. The OPEC has agreed to keep the oil prices in between $ 22 to $ 30 per barrel. So the Central Asian countries cannot expect to earn more than $ 16 per barrel at any case.

At the price of $21.00 per barrel, gross income from oil would be around $3,825 million per year on 5,00,000 barrels per day production rate. The total of the costs discussed above indicate that the cash outflow for this size production would be about $2,380 million per year, leaving to the Caspian countries $ 1,453 million, or on the basis of a 10-year production average of $8.39 per barrels, about 40 percent of ultimate sale price. Naturally, it can be argued that chances of oil prices falling below $13 per barrel are very slim and that any amount of money made above and beyond break even is cash in the state's coffer that would not otherwise be there. This argument is valid. Indeed, with income of $1 billion and more, a state can invest in education and industrial programmes that will benefit the country, create jobs and infrastructure. However, the old argument that a "barrel of oil once exported is gone forever " still applies. If production in Kazakhstan were to increase by 1 to 1.5 million barrel per day, the actual number of years of oil production would decrease from 93 to 29. Proven oil reserves in new fields tend to increase as prospecting improves, but the decline in the number of years of production is irreversible. It forces government to diversify very rapidly and so somewhat unnaturally embark on unviable industrialization programmes.

The concept of oil money being used to develop other types of economic ventures and industries is often unrealistic. The extraction of natural resources is indeed a mixed blessing.[4] By bringing substantial amounts of foreign exchange into the country, oil allows the local currency to remain relatively high compared to the currencies of its neighbours and others. An overvalued currency allows the local population to buy imported goods rather than manufacture locally and this, in turn, hinders efforts to develop a local productive industry. This problem, sometimes called the "Dutch disease" has been seen in the Persian Gulf region, where cheap foreign labour was imported in lieu of using the more expensive local labour. The existing factories and service providers are now addicted to this cheap labour and find it very difficult to switch to local sources, paradoxically creating high unemployment rates in otherwise very wealthy states.

The large inflows of cash from oil sales are more often than not used for non-productive investments. Military forces, luxurious palaces, unneeded roads and a bloated bureaucracy seem to eat up the funds as they become available. The Caspian countries that are suffering from economic recessions are scrapped for cash. The amount of cash obtainable from oil returns may be much lower than generated by the oil pumped in the Persian Gulf. But, cash is cash, and its lure may prove irresistible. If world prices were $ 18.00 per barrel, the Central Asian states would make only $984 million instead of the $ 3.2 billion that a Persian Gulf state would make for the same amount of oil, but payments close to $1 billion are better than what the states obtained before. In reality, the billion dollar pipeline investments have brought great

[4] The Economist, December 23, 1995, p. 87

wealth to the Central Asian political bosses, all former senior Communist Party leaders from Soviet days but not to their citizenry, whose average monthly wage is around $20. Recently Kazakhstan, Foreign Minister, Kasymzhomart Tokayev, acknowledged that in 1996, President Nazarbayev moved $1 billion of oil funds into a secret Swiss bank account without telling his parliament.[5]

One could question the ability of the states in general to handle a rent-type of yearly income of $ 1 billion or more. Too many countries have ill-used their windfall from oil. Nigeria has spent many times what it receives in oil revenues. It has borrowed beyond its ability to repay without much benefit to its citizens. Venezuela is undergoing a very tough economic restructuring programme that is not even sure to succeed in putting the country back on the right track. Very wealthy states tend to spend lavishly on military programmes. New developments in energy intensive activities will benefit a much larger part of the population. The making of petrochemicals and other energy-based products will create a demand for engineers and highly paid skilled labour. In the first stage, many of these skills may have to be imported. However, if the Saudi example holds in the Caspian region, within 20 years many such skills will be developed and supplied locally. Further, there will be a great demand for collateral services-transportation, maintenance of machinery, construction, and others, which will be provided locally, all creating substantial employment at all skill levels.

[5] Pratap Chatterjee, CorpWatch, June 28, 2002

A Case Study of CPC Pipeline

On 6 April 1993, the joint Kazakh-American venture, Tengiz Chevroil (TCO), was launched and given a forty-year mandate for carrying out operations on a 4000 square kilometer area with a start up investment of $ 1.5 billion. The overall investment volume was expected to touch $ 20 billion. It was estimated that during the four decades of work, oil output alone from the Tengiz field would amount to 775 million tones, along with substantial quantities of associated products. The total profit from the joint venture was expected to be $210 billion, minus expenses of about $ 83 billion. Exploitation of the Tengiz field actually began in the early 1980s 1990, sixty operational wells were producing about 3 million tons of oil per year. Therefore, Tengiz was already sufficiently well explored and even had been partially upgraded, so the American side was taking only a limited risk. It was planned that in 1997, the amount of oil produced form this field would reach 12 million tons. However, these plans were never realized. Difficulties with transportation halted growth of oil output. As a result, according to the President of Kazakh oil, the TCO joint venture produced only 7 million tones of oil in 1997, which nevertheless amounted to 30 percent of Kazakhstan's total oil output of 25.8 million tone.[6]

It is important to stress that tengichevroil was the largest investor in the republic. In 1997, its investments and special payments to the oil projects throughout Kazakhstan totaled $346 million from the overall sum of $627 million of foreign investments used for these purposes. In other words, TCO provided more than half of foreign investments in Kazakhstan. The Company produced 8.46 million tone of oil in 1998, which is about one third

[6] Vladimir Babak, "Kazakhstan: Big Politics Around Big Oil", in Michael P. Croissant and Bulent Aras (eds.) *Oil and Geopolitics in the Caspian Sea Region*, Praeger, 1999, pp. 194-195.

of the country's oil production. TCO plans output of 9.3 million tone in 1999. In 1998, TCO invested more than $500 million. Based on the agreements that Kazakhstan has signed with Chevron and Russian companies for the development of the Tengiz field, it is possible to approximate the type of income that can be expected from the present projects in the Caspian sea region. The cost of transport from the Tengiz field to the Mediterranean is one of the main factors in evaluating the Central Asian projects. Tengiz oil is exported through Russia to Novorossiisk, from Novorossiisk to Turkey by sea, and through Turkey by pipeline to the Mediterranean.

There are three major costs associated with using pipelines-capital costs, transit fees and operating costs. At an average of $ 1.5 million per mile the total capital cost of Caspian Pipeline Consortium pipeline from Tengiz to Novorossisk was about $2.5 billion. The transit fee includes payments to the countries that allow the pipeline through their territory, the rental fee for the terminals at Novorossisk and fees for the general pumping and maintenance of the pipeline. Operating costs include the costs of the actual day-to-day running, repairing and maintaining of the pipeline, pumping the oil and the like. These costs are estimated at between $11.5 and $13.5 per ton between Kazakhstan and Novorissisk and at $1.00 to $3.00 per ton from Novorossisk to the Mediterranean.[7]

In the case of the development of the Tengiz field, Chevron will have a 45 percent equity ownership, Kazakhstan 25 percent, Mobil 25 percent, an LUKoil of Russia 5 percent. Chevron and LUKoil are partners in the

[7] Anne Bingham, "Costing Kazak Oil Exports: An Economic and Political Analysis of Transporting Kazakh Oil to World Markets", Unpublished Student Paper, Columbia University, New York, December 1996, cited by Hoosang Amirahmadi.

Caspian Pipeline Consortium (CPC) which is a 1500km pipeline from Tengiz to Novorossiysk. It is expected that Chevron will either find or provide the capital necessary to develop both the field and the pipeline. The total amount of capital expended by the year 2000 for the development of the fields and the pipeline total $ 5billion. Whether this capital is raised on the world financial markets or directly provided by chevron, it would have a cost. Indeed, Chevron itself will borrow the money to pass it on to the two consortia. One can expect that the cost of capital will be not less than 8 percent per annum for repayment over 15 years. Even if oil prices fell to $21.000 per barrel, Chevron would obtain about $2.677 per barrel corresponding to $7.33 per barrel as its share of the total net consortium income. Chevron's minimum expected return therefore would be met easily.

The cost of running the day-to-day production and maintenance in the oil fields of the Persian Gulf region is estimated by the Energy Information Administration (January 1996) at a 5 percent of the original investment plus $0.25 to $1.00 per barrel. In the case of the Caspian region, it is realistic to expect the cost of production to amount to 5 percent of the original investments of $3.1 billion for a production of 5,00,000 barrels per day corresponding to $0.86 per barrel, plus the average of the spread per barrel suggested by the EIA, or $0.63 per barrel. Therefore, the total cost would be about $1.49 per barrel.

Some of the largest elements in the costs of oil to the Central Asian republics are the royalties and management fees that the joint venture will have to pay to the foreign oil companies for developing the fields. The fee structure of the agreements has not been released for public information. Therefore, one can only estimate what range will be demanded by the oil

companies for providing their technology, know how, and capital. To estimate these amounts, one must assume that the oil companies, like any other firm, will want a certain rate of return before tax on their use of capital. If the foreign oil companies were to bear the risk and the opportunity costs of financing the development of fields and pipelines, they would only invest if they could match their minimum required return on the total amounts they expect to spend for a minimum expected risk level. One may assume, realistically, that the amount of capital needed, about $ 5 billion by the year 2000, will carry an interest rate of 8 percent and that the foreign oil companies will charge the said amount to the joint venture, therefore requiring a return that the includes such interest. It would be normal practice for a corporation to require a rate of return on investment of about 30 percent per year. On a total capital of $6083 per barrel of production provided by the foreign oil companies, this would correspond to a minimum required annual return of $1285 per barrel, or $5.00 per barrel.

Impact of Pipelines on Kazakhstan's Economy

Kazakhstan's economic development has followed the general pattern of all former Soviet Republics with the collapse of industrial production, a sharp decline in Gross Domestic Product (GDP) and growth of inflation and unemployment. The GDP, at purchasing power fell continuously between 1990 and 1995, with the largest fall in 1994.[8] An improvement took place in 1996 when the GDP rose by 0.5 percent and in 1997 by 2 percent. GDP per head stood at $2,587 at the end of 1997, only to drop by 2.5 percent in 1998

[8] Country Report: Kazakhstan, EIU, 4th Quarter, 1998, p. 5

because of Russian economic crisis and low oil prices. The oil prices increase of 1999 helped the GDP recover by 1.7 percent.[9]

It was only in 1994, after two years of strong recession, that Kazakhstan introduced a reform and stabilization policy with IMF support. Despite the hyperinflation of 1994 provoked by Nazarbayev's cancellation of repayment of agricultural loans until 2000, production growth was restored and inflation reduced. The Kazakh currency, the *tenge* introduced in November 1993 following the expulsion of Kazakhstan from the rouble zone, was made convertible in July 1996. Growth, however, was concentrated in a few sectors such as oil, gas, metal industries and agriculture, while other sectors continued to decline. Budget deficit has been a constant problem, standing at about 3.5 percent of GDP in recent years. These deficits would have been significantly higher had it not been for the income from privatization.[10]

The GDP growth in 1996 and 1997 was helped by foreign investment, most of which went to the energy sector, which attracted US $ 3.2 billion. Kazakhstan has experienced impressive economic growth over the past three years, buoyed by increased oil exports, as well as by prudent fiscal policies and economic initiatives that were instituted in 1999. The results included a sharp reduction of inflation, which dropped to just 6.6 percent in 2001, a budget surplus, a stable currency and a decreasing unemployment rate (3.3 percent in 2001). After posting moderate growth of 2.7 percent in 1999 as a whole, Kazakhstan's real GDP rose 9.8 percent in 2000, which was a three times higher than the official government projection at the beginning of the

[9] Country Report: Kazakhstan, EIU, April 2000, p. 11
[10] R. Hrair Deikmeijian and Hovann H Simonian, *Troubled Waters: The Geopolitics of the Caspian Region*, I. B. Tauris Publishers, 2001, p. 57

year. In 2001, Kazakhstan built on the previous year's economic performance by increasing its real GDP by an additional 13.2 percent easily the country's best year of economic performances since independence. Kazakhstan's real GDP is expected to increase an additional 7 percent in 2002. The main driver behind Kazakhstan's economic growth has been foreign investment, mainly in the country's booming oil and natural gas industries. Since independence from Soviet rule in 1991, Kazakhstan has received approximately $ 13 billion in foreign investment in its oil and natural gas industries. According to Kazakh Minister of Economy, Zhaksibek Kulekeyev, the oil industry currently accounts for approximately 30 percent of Kazakhstan's budget revenue and half of export revenue.

The positive achievements of Kazakhstan's economy have included macro-economic restructuring, the establishment of a legal framework for a private economy, the adoption of a tradable currency, liberalized prices and the influx of large amounts of foreign investment into the oil and gas sector. On the negative side, there is widespread corruption and growing income misdistribution between a small minority, which has approximated a large share of the state's wealth the rest of the population, finds it increasingly hard to survive. Other negative factors include the lack of diversification and overemphasis on oil and gas sector, as well as the government's inability to pay pensions and wages on time.

In 1999, Kazakhstan produced 28 million tones of oil; it plans to increase production up to 50 million tones in the year 2003 and is eager to cross 100 million tones mark by 2010. The construction of pipelines can only become feasible if and when the demand for oil is sufficiently assured from client states. As an example, the projected Baku-Ceyhan pipeline could

only become economical if Kazakhstan commits 20 million tones of oil. In its first decade of independence, Kazakhstan can boast robust progress in the development of its oil industry. Two huge foreign projects, at the Tengiz and Karachaganak fields, are steaming ahead, boosting crude and condensates production to record levels. Meanwhile, the Kashagan discovery, in the north Caspian, has encouraged predictions that Kazakhstan could be producing as much as 120-150 mt/y of oil (2.5-3 mb/d) by 2015. Oil output, which was 30.1 mt in 1999, climbed to 35.26 mt in 2000 and 39.36 mt in 2001. It is expected to top 40 mt in 2002. Commissioning of the 1500 km, Caspian Pipeline Consortium (CPC) export system from Tengiz to the Russian Black Sea, in October 2001, opened a direct route for crude exports to world markets.[11] Noting the more bullish forecasts of Kazakhstan's oil production growth and with Kashagan in mind, CPC plans to expand its system. The addition of a fifth compressor by the end of 2002, was supposed to boost capacity to the 28 mt/y called for in phase one of the project.

But, concerns about Kazakhstan laws, or the lack of them is damping investor enthusiasm. In particular, the government's continuing habit of revisiting oil contracts signed years before is drawing louder and more frequent complaints from foreign investors. The gas industry in Kazakhstan remains underdeveloped and prices offered domestically and in Russia are very low. Gazprom, Russia's gas monopoly controls the only gas trunk lines from Kazakhstan and is unwilling to share export markets with independent Russian producers, let alone foreign producers. However, there is hope that the newly formed Russian/Kazakhstani joint venture, KazRozgaz, created in 2002 June by Kazakhstan's state owned oil and gas firm, KazMunaiGaz,

[11] Petroleum Economists, November 2002, p.67

Gazprom and Russia's Rosneft, will open new export routes. KazRozGaz is yet to begin operating, but its main function will be market and export gas from Tengiz and Karachaganak. Eventually, the venture may also handle gas from neighbouring Turkmenistan and Uzbekistan.

Chevron Texaco, which operates the Tengiz Chevroil joint venture that currently supplies the majority of oil to the CPC pipeline, has estimated that during its 35 to 40 years expected life, the pipeline could bring in $ 8 billion in taxes for Kazakhstan and development of the Tengiz field and operation of the Pipeline would earn about $ 150b for Kazakhstan and Russia.[12] All Kazakhstan's existing pipelines cross Russia. Earlier this year, the countries signed a long-term oil transit accord guaranteeing transit of at least 17.5 mt/y of Kazakhstan crude through Russia's pipelines. Kazakhstan, it is believed, could earn $ 700b from offshore oil and gas fields over the next 40 years.

After the agreement on Tengiz, an agreement was signed in June 1993 on the creation of an International Consortium, Kazakhstan Caspishelf (ICCS), which included the British Norwegian joint company British Petroleum (BP), Statoil, British Gas, the Halian Agip, the French Total, the Dutch shell and the American Mobil. Each of these companies had to pay an entry fee of $ 3 m. The overall volume of investments was determined to be about $ 300m. In July 1997, the Kazakhstani leadership transferred to the western companies of the KCS twelve blocks in the region of Kashagan oil field, where oil reserves are estimated to be 2 bt, and two blocks in the region of the Kurmangazy field, with estimated reserves of 150 mt and which is contested by Russian side.

[12] www.eia.gov

Turkmenistan Economy and Pipelines

Following several years of decline since Turkmenistan's independence from the Soviet Union in 1991, Turkmenistan's economy has rebounded in the past four years. Turkmenistan, whose economy relies heavily on oil and natural gas production, suffered a 25.9 percent drop in its real gross domestic product in 1997 when Russia demand access to its pipeline network. Since the resolution of the dispute with Russia, Turkmenistan's natural gas exports have increased dramatically spurring the country's economy to three straight years of double digit-real GDP growth, including an 18 percent increase in 2001. Turkmenistan's economy is forecast to grow an additionally 13 percent in 2002.

The Turkmen economy is based on agriculture mostly cotton and the export of gas. The quantity of cotton harvested since independence has declined from 1341 thousand tones from 1993 to 437 thousand tons in 1996, after which it registered substantial increases, returning to its previous high point in 1999. The production of gas fell from 65.2 billion cubic metres in 1993 to 13.25 billion cubic metres in 1998, but rose to 22.9 billion cubic metres in 1999.[13] The economy was harmed by the failure of several CIS republics to pay for Turkmen gas deliveries and Gazprom's blockage of gas exports through its pipelines network. The resumption of gas deliveries to Russia and rising energy prices resulted in GDP growth rates of nine percent and 17 percent in 1999 and 2000 respectively. Although Turkmenistan has often been called the 'Kuwait of the Caspian', it has yet to benefit from its oil and gas resources. The country's meager resources are wasted on useless

[13] *Country Report*: Turkmenistan, EIU, and 4th Quarter, 1998.

projects such as Presidential palaces and numerous hotels, which remain unoccupied as tourists rarely come to Turkmenistan.

In 1990, Turkmenistan produced 88 billion cubic metre of gas, while seven years later it produced only 17 billion cubic metre. The government has outlined a new energy policy that it hopes will result in investments in oil and gas projects of $46 billion by 2010. Most of the investment will come from overseas sources-80 percent, the government says. The government plans to invest $8.5 billion from state coffers in the oil and gas industry in between 2002 to 2010. Turkmenneft will invest $ 3.8 billion, Turkmengaz (which produces 85 percent of the country's gas, with Turkmenneft producing the other 15 percent) will put up $2.9 billion and there will be additional investments amounting to almost $2 billion from other state owned concerns.

According to Oil Minister Kurbannazar Nazarov, "direct foreign investments should help boost hydrocarbons productions, based on modern technologies and equipment, on Turkmenistan's shelf of the Caspian Sea and fund the construction of export of oil and gas pipelines". In the next five to seven years, Turkmenistan intends to make a giant leap in boosting the delivery of hydrocarbons raw materials and petroleum products to international markets. By 2005, the target is to increase oil production to 28 million tone per year and gas output to 85 billion cubic metre per year. for 2010, its targets are 48 million tone per year of oil and 120 billion cubic per year of gas. It hopes exports will grow to 16 mt and 70 bcm in 2005 and to 33 mt and 100bcm in 2010.[14] Based on existing and undiscovered reserves, these are very ambitious targets, especially in the case of oil. Crude output in

[14] *Petroleum Economist*, July 2002, p.56

2001, including gas condensates, was 8.019 mt- about 1,60,000 barrel per day lifting that to close to 1mb/d in eight years will be difficult.

Turkmenistan has greatly suffered from its inability to export its gas to anyone other than the former Soviet republics. The state is under great financial stress because neither Kazakhstan nor Russia is paying for their purchase of gas from Turkmenistan. Turkmenistan is totally dependent on the goodwill of Kazakhstan and Russia. Turkmenistan is married to its pipelines. In order to export and be paid in a timely manner, it must either build more pipelines through third countries like Iran, or through the Caspian Sea and Azerbaijan to Turkey. The pipeline solution is expensive and politically difficult. It would make much more sense for Turkmenistan to emphasise developing its petrochemical infrastructure and export its semi-finished and finished products in multiple directions and/or swap them with its neighbours

Nevertheless, Turkmenistan's real GDP in 2001 was still only 70 percent of its 1990 level and economic and political reform has been stifled under the autocratic leadership of President Saparmurat Niyazov. The Foreign Direct Investment, over 90 percent of which flows into the country's oil and natural gas sectors, has slowed over the past few years because of the restrictive conditions that Turkmenistan attaches to foreign investment. Privatization goals remain limited, and the country has not taken steps to diversify it economy to reduce its dependence on natural resource exports. Turkmenistan has agreed to sell 20 bcm of gas in 2001 for $ 36 per 1000 cubic metre. As with Ukraine, only 40 percent must be paid in cash, giving Turkmenistan $ 288 million in currency in 2001. The remaining amount will be accounted by investment and bartered goods.

Development Alternatives

An alternative to exporting oil and gas through pipelines is to develop a large petrochemical industry and use the energy resources inside the country and export finished products. It is said that the amount of oil and gas required to achieve the present expected cash flow generated from 500,000 barrels per day of oil exports from the Tengiz field or others would be between one-half to one-sixth if most of the production were used for creating petro-chemicals and other energy based industries. Substantially lower production would require lower capital expenses. Instead of spending $ 3.2 billion producing 500,000 barrels per day, $ 500 million could be spent to build or upgrade a refinery to produce more naphtha as base for ethylene production. An additional $ 1 billion could be spent to build an ethylene cracker, which would end up producing exportable ethylene glycol or LDPE or similar products.

One such alternative is development of energy-intensive industries such as the production of petro-chemicals, aluminium and direct reduction steel, which could be easily transported via a variety of routes to Europe and the Far East. Although these industries also demand considerable investment, it can be argued that returns on such investment could be three to four times higher than revenues from the export of oil and gas. Such a development focus has the added advantage of increasing the range of sources for foreign funding, thereby creating a more jobs could be created and economic independence can increase as countries become less reliant on the goodwill of adjoining states for the transit of resources. In the long term, more diverse economies would facilitate social and political stability as well

as the containment of environmental degradations.[15] Whether oil is exported or used as feedstock for a petrochemical industry, it still needs to be pumped out of the ground, for which reserves have to be developed. Therefore, the argument goes, there would be little savings in establishing a large-scale petrochemical or energy-intensive industry. Both efforts would require the involvement of foreign partners at huge costs.

If new pipelines for oil or gas exports are no longer needed to be build, then other types of transportation infrastructure will be needed to export ethylene byproducts, ammonia, urea and the like. Further, if other energy-intensive industries such as aluminium or direct reduction steel are promoted, new electricity generators will be needed and facilities would have to be built to transport bauxite or iron ore to the source of energy. Unless the Caspian countries can find large sums of cash or borrow heavily in the European financial markets, the financing of these plants and refineries will have to come from joint venture partners in those industries. One of the advantages of going downstream from pure oil production is the ability to negotiate with many more companies. Most of the large oil companies have petrochemical divisions, but there are also a good number of large chemical companies with the know-how, savvy and financial means to develop sizable plants anywhere in the world. Naturally, these firms will charge for sharing their know-how, finding the capital and the building the plants, and just like the oil companies require royalties, they will require either a share of production or special sale prices. On the other hand, these companies will reach the local petrochemical engineers and managers how to market the products worldwide, especially.

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[15] Hooshang Amirahamadi, *The Caspian Region at a Cross Road*, Macmillan, 2000, p. 12

Since hydrocarbon resources are not renewable, their export could compel governments to diversify rapidly and engage in not-so-viable industrialization programmes. An influx of foreign exchange from oil exports can lead to over-valued local currencies, and a preference for the importation of goods and labour, thereby inhibiting the development of local industries and employment- a problem already faced by the Persian Gulf oil exporting states. Thus alternatives should be sought to development based on the export of oil and gas. However, given that the littoral states will depend on their oil and gas reserves for sometime, any alternative must utilize and benefit from these natural resources. Oil resources in Central Asia are not a blessing. The race for exporting crude oil is making the countries very dependent on foreign capital and on foreign oil companies. The Central Asian countries are as dependent on Russia as they were before the breakup of the Soviet Union. Foreign companies are interested in maximizing their revenues in the shortest time possible and to minimize their risks. Geography also renders the Central Asian Republics very susceptible to pressures from their neighbours in whose territory pipelines, and loading terminals are/will be located.

CHAPTER-IV

GEO POLITICS OF PIPELINES

As one of the most turbulent areas of the world, the history of Central Asian states has been one of regional influences, political maneuvering, shifting alliances, commercial competition and conflict. The region has, been vulnerable to the interventions of a variety of interested parties outside the region. Russia, Turkey, the British and Iran have, at different times, controlled substantial areas, seeking either to exploit the region's natural endowments or to use it as a launching point for further conquests. Conflicting interests of the Caucasian and Central Asian states, the dispute over demarcation of the Caspian Sea, domestic political instabilities and technical factors play important roles in the development and export of Central Asian oil. In addition, external interests based on commercial, domestic and international policies, create a range of pressures on the oil development and strategic formation of the region[1].

Other than the five Central Asian states, certain external and regional powers play geopolitically significant roles because of their location and different interests in the Caspian basin. The major external players in Central Asia are Russia, Turkey, Iran, China and the United States. All these nations, seek to influence the future geo-economic configuration of the Central Asian region. In terms of their national interests, the countries of the outer circle are motivated by several factors such as:

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[1]Rosemarie Forsythe, "The Politics of Oil in the Caucasus and Central Asia", *Adelphi Paper*, No. 300, Oxford University Press, 1996, pp.7-10

- The need to import energy for their growing economies.
- The benefits to be derived form the transit of pipeline through their territory.
- The prospect of competition from Caspian oil and gas in world energy markets
- The fear of power configuration around the Caspian, which could affect their strategic interests.

Since the retreat of Soviet power, external powers have gradually increased their involvement both in economic and political realms of Central Asia. This leads, at the regional and international levels, to a complex series of maneuver and kaleidoscopic alliances and counter-alliances, designed to gain access to and influence over, some of the most valuable resources in the world.The objectives and strategies of various external powers in the geopolitics of Central Asia are discussed below.

United States of America

The USA has shown much interest in the restructuring of oil industry as well as in participation in the development of oil fields in the Caspian Sea and the surrounding countries. These oil deposits constitute new sources of supply from countries outside the OPEC and are thus extremely important on the political as well as on the economic level. Central Asia has attracted US interest for the following reasons:

- The oil of this region is considered to be of good quality

- The biggest part of this oil is intended for export, since the needs of the producing countries are relatively low and are expected to remain low.
- The fact that the countries of the region lack the capital and technology to proceed independently to develop these oil fields, offer American companies considerable investment opportunities.[2]
- The US currently imports 51 percent of its crude oil- 19.5 million barrels per day (mb/d). The Energy Information Administration estimates that by 2020, the US will import 64 percent of its crude- 25.8 mb/d. So the presence of Central Asian oil reserves and the possibility of their export raise new strategic concerns for the US and other Western industrial powers.[3]

In this context, we can better understand the geopolitical and economic aims of the US in Central Asia. At the geopolitical level, the US wants to help the countries of Central Asia to develop their oil and natural gas industries. According to the estimates of the American government, this development will bring about economic growth and will help these countries move away from the Russian sphere of influence. American political objectives include the containment of Iran and the reinforcement of Turkey's role in the region. The US has not only tried to block any pipeline route passing through Iran, but has also cancelled Iran's participation in the international consortium, which has undertaken oil production in Azerbaijan.[4]

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[2] Constantine Arvanitopovlos, *Geopolitics of Oil in Central Asia* ,www.spinsanity.org
[3] Sitaram Yechury in the Hindu, 29 october 2000
[4] Robert E. Ebel, Michael P Croissant, Joseph R Masih, Kent E Calder, Raju A. C. Thomas, "Policy Forum: Energy Futures", *The Washington Quarterly*, Vol. 19, No. 4, Autumn 1996, pp. 71-79

The US has three main policy goals in the region. Firstly it supports the sovereignty and independence of the countries of the region. The US takes the view that oil is the key to economic viability of several of these countries, particularly Kazakhstan and Turkmenistan and that oil development in those two could also bring benefits to others, such as Georgia and Armenia, depending on export routes.

Secondly, the US supports its own commercial involvement in the region's oil production and export, on the basis that the of its domestic companies involvement can help to further economic reform and facilitate the region's entry into the world economic market. Such commercial involvement could also enhance the US presence in the Caucasus and Central Asia and in developing a highly valuable resource to which private companies bring necessary capital, management and technology. Finally, it is hoped that the involvement of US companies in successful and lucrative oil deals will bring economic benefits to the US. Thirdly, US policy supports the diversification of world oil supplies to reduce future dependence on Persian Gulf oil. This is considered particularly important in the run-up to and after the year 2000 during which time, according to some projections, world oil capacity would not keep pace with the demand created by economic growth. This is not to say that the world would experience the same oil shocks that occurred in the 1970s, but the margin between production and demand may be wider than it is now, as some present resources dry up. Caspian oil will not begin to make a significant difference until after 2005.[5]

[5] Rosemarie Forsythe, ibid. pp. 17-20

One challenge confronting Washington is balancing commercial interests in the region with other interests and foreign policy goals. These include a desire to contain Iran; an interest in encouraging Russian political and economic reform and fair commercial practices in the region; support for an end to regional conflicts including in Nagorno-Karabach, Chechnya and Afghanistan; and the desire to maintain a good relationship with Turkey, a critical ally in an area that is of top national security interest. US policy in Central Asia relies on four main instruments:

1. Active diplomatic support at all levels, from embassy officers to the President. The president, Vice President and several cabinet members have worked actively to pursue US goals in a number of high-level meetings with all countries involved particularly in the $ 20 billion Tengiz Chevron Oil project in Kazakhstan, the Azerbaijan international oil consortium, and in the Caspian demarcation issue. US officials have maintained extensive contacts with domestic company representatives in order to coordinate strategies for the promotion of national business interests.
2. Government trade and commercial bodies, including the Overseas Private Investment Corporation, the US Department of Commerce, the Export-Import (EX-IM) Bank and the Trade and Development agency. These are either already involved in projects, or examining ways to assist Central Asian states in getting their projects started more quickly and efficiently.
3. Substantial technical assistance to help these countries develop their legal and commercial infrastructure to meet modern needs and facilitate oil development and export projects.

4. Support for International Financial Institutions (IFI) efforts at institution-building and infrastructure policies in these countries[6].

Given these policy goals and investments, the US has established parameters to underpin its policy. Future national political and commercial decisions on pipelines are being made within these parameters as the situation develops. They include:

- Multiple short and long term pipeline routes. The US has promoted this policy since 1994 because it encourages commercial competitions keeping tariff rates lower, safeguarding exports against interruption by avoiding dependence on a single route and endorsing fairer commercial practices.
- A route through Turkey (as one of several routes). This will augment the total amount of pipeline capacity to export oil from the Caspian region, relieving current pressures on the Russian pipeline system, decrease Central Asian countries dependence on routes through Russia; allow exporters to avoid the weather and capacity problems at the Russian port of Novorossiik; reduce the potential for oil spills and tanker accidents in the Black Sea and the Turkish straits; and reduce the pressure for a route through Iran to the Persian Gulf[7].

It opposed projects that give Iran significant political, material and economic benefits. The US has encouraged Central Asian countries to

[6] Rosemary Forsythe, ibid, p.56
[7] R Hrair Dekmejian and Hovann H Simonian, Troubled Waters: The Geiopolitics of the Caspian Region, I B Tauris, 2001, p.163

minimise Iranian involvement in oil projects as part of an overall effort to contain Iran.

To sum up, US foreign policy in Central Asia is founded on the following rationale:

- The US intends to help the former Soviet Republics of Central Asia develop their oil and natural gas industries.
- Through the development of their oil and gas industry, which will bring economic growth, the US hopes to extricate them from the Russian sphere of influence.
- The US government is actively supporting American companies in Central Asia involved in oil development as well as in the construction of pipelines, which will channel the oil to the West.
- The US will try to channel the oil coming from those countries into the international markets in order to diversify its own sources of supply and keep oil prices at low levels.
- The US government believes that economic growth will promote regional stability and the resolution of local disputes.
- Finally, the US aims at reinforcing the role of Turkey in the region, while at the same time maintaining the policy of containment and isolation of Iran. For that reason it has actively lobbied for a pipeline, which will transport oil from Baku to the Turkish port of Ceyhan.

After initially favouring Kazakhstan during 1995, the US switched to Uzbekistan as its preferred Central Asian partner. US interest in Kazakhstan waned after the removal of nuclear weapons from its territory and the

realization that the Kazakhs could not afford to dissociate themselves from Moscow. The emergence of Uzbekistan as a favoured partner was not only due to that country's political and economic importance, but also to Karimov's anti-Russian, pro-Israeli and anti-Iranian rhetoric including a temporary compliance with the American embargo against Iran.[8]

In 1995, American intervention was decisive in Iran's exclusion from the contract of Azerbaijan International Oil Consortium, and in the choice of two pipeline routes through Georgia and Turkey for the export of 'early' Azerbaijani oil, which reflected the US preference for multiple pipelines out of the Caspian. On the issue of the legal status of the Azerbaijani position, the US is arguing that the sea had to be divided into national sectors. However, at a time when the US was challenging Russia with NATO's eastern expansion, it had no desire to confront Russian too openly in the Caspian. Meanwhile, Washington intensified efforts to find a solution to the region's ethnic conflicts such as Karabakh and Abkhazia, which could promote instability and disrupt oil export.[9]

For its part in a surprise move, Azerbaijan offered in January 1999 to base US/NATO troops in the Apsheron peninsula. Although the US was not prepared to accept Azerbaijan's proposal to extend NATO to the Caspian shores, it was anxious to conclude an agreement on the Baku-Ceyhan pipeline, which was finally signed in November 1999 at the Istanbul OSCE conference.[10] This document provided the political framework on the basis

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[8] Igor Rotar, "Moscow and Tashkent Battle for Supremacy in Central Asia", *Jamestown Foundation Prism*, Vol. 5, No.4, 26 February 1999, p. 7

[9] Gerogi-Ann Oshagon, "Clinton Wants a Quick End to Karabakh Conflict, Says Presel", *Asbarez Online*, 15 November 1996

[10] Baku-Ceyhan Oil and Gas agreement Signed, *Jamestown Foundation Monitor*, 29 November 1999.

of which the oil companies would proceed to fund the building of the pipeline.

In spite of its dominant position in Central Asia and Caspian Sea area, aside from the Baku-Ceyhan agreement and the cooperative relationships with the region's rulers, there has been little in the form of tangible success for the US. In the face of Islamist opposition, and irritated by the US criticism of their human rights policies, the Central Asia countries turned to Russia, after Putin's rise, to enhance their external and internal security. The US sponsored trans-Caspian scheme was shelved, while the construction of Russia's Blue Stream gas pipeline project to Turkey was proceeding apace.

Russia

Russia's involvement with the Caspian Sea goes about nearly 300 years to the time of the Czars. For centuries, the Caspian region has formed a portion of the disputed frontiers between the Russian, Turkish and the Persian empires. After World War II, it has continued to be the focus of attention of the former Soviet Union. Following the break up of the Soviet Union, the three Republics of Azerbaijan, Turkmenistan and Kazakhstan began to significantly exploit the onshore and offshore holdings of oil and gas. Today, unofficial, loose but tacit political blocs vie for exploitation of the resources in the region US, Turkey and Azerbaijan versus Russia, Armenia and Iran. Both Russia and Iran view the western moves with distrust Russia and Iran have good relations with Armenia thus counterbalancing Azerbaijan's relations with the West and Turkey[11].

[11] Zbingniew Brezezinski, *A Geostrategy for Eurasia*, Foreign Affairs, LXXVI, No.5, September-October, 1997, pp.39-55

The resource rich Republics of Turkmenistan and Kazakhstan are in need of foreign investment for exploitation of their oil and gas wealth. Kazakhstan has a large number of Russians in its population, much large compared to any other CIS country and Turkmenistan was the first country to adopt a policy of dual nationality and sign an agreement on joint defence with Russia. The coincidence of Iran's views with Russia is based on its confrontation with the West and the western sanctions: obviously in such a situation it could not afford another confrontation with Russia. Moreover, it cooperates with Russia in the Caucasus, Central Asia, Southwest Asia and Middle Eastern matters. All these factors explain why Turkmenistan, Kazakhstan and Iran have avoided acute tension with Russia, with not standing their divergent national interests[12].

Some Russians seriously doubt if the Caspian oil will ever emerge as an alternative to the Middle East oil. Arguing that oil, gas and networks of pipelines and communications do not necessarily usher in stability or political democracy citing Saudi Arabia and the Gulf States as examples- they conclude that stability has to be maintained by other means than democracy. Moreover, the Caucasus region is faced with a host of internal conflicts, namely Ngorono-Karabakh, Chechnya, Abkhaziya and the Kurd question looming large in the shadows. In recent years, the increased US and NATO attention towards the region has led many Russian strategists to apprehend that the greatest threat to Russia emanates not from China or the Islamists but the possibility of a Desert Storm II, over the Caspian economic issues. In their opinion, the setting up of military bases in the Central Asia countries validates this apprehension.

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[12] The Politics of Oil in the Caucasus and Central Asia, *Adelphi Paper*, 1996, p.19

Russian observers are skeptical about the future plans such as the oil pipeline in the Caspian seabed or even the western route proposed by US and Azerbaijan through Turkey. According to them, these plans are more politically/ideologically motivated rather than based on pragmatic considerations of oil industry, inhospitable terrain and oil prices in the international market. While oil and gas account for 40-50 percent of Russia's export earnings, most of Russia's reserves lie not in the Caspian Sea, nor for that matter in Siberia, but in the shelves of the Barents and the Karelian Seas[13].

Russians were wary of increased American presence in the Caspian region, especially with the prospects of enormous amount of Western Kazakhstan oil swiftly flowing to the west. On its part, the US does not want Russia to be a major contributor as it wants to reduce American dependence upon the Persian Gulf oil, seeks to enrich its own oil reserves and would like Russian investment in development and construction of the Tengiz oil fields pipeline. But since it is practically not possible to avoid Russia, the US is seeking a collaborative relationship with the former.

Russian foreign and defence ministries concentrate on security while those of fuel and energy are focusing on economic interests. However, in a generic way, following main objectives seem to shape the positions of all the Russian ministries towards Central Asia. These objectives include:

a. Secure a friendly buffer zone to ensure security and geopolitical interests.

b. Ensure stability in the region to avoid ethnic tensions from spilling into Russia or causing border tensions.

[13] www.eia.gov

c. Maximize the economic benefits of Central Asian oil and gas if possible.

d. Dismantle US position of power in the region.

e. Weaken the re-emergence of OPEC and

f. Strengthen ties with Iran and join the Caspian via a pipeline with the Persian Gulf[14].

Russia has adopted some strategies to realize these objectives. These include:

- The creation of the Caspian Sea area as a zone of influence (in psychological and ideological sense)
- Penetrating the littoral states from the inside (using companies like LUKoil and others to negotiate favourable terms with these states.)
- Using local conflicts to its advantage or creating legal and other obstacles to prevent new competitors from entering Central Asia. For example, it could prevent any pipeline linking Azerbaijan with Kazakhstan or Turkmenistan or the Baku-Ceyhan pipeline. Another obstacle would be an effective blocking of the Volga-Don canal, the low volume seasonal link between the Caspian and the Black Sea. This is literally the only ingress for oversized offshore drilling rigs and other equipment headed for the Caspian. Some observers are of the

[14] Constantine Arvanitopovlos, ibid.

opinion that Russia may choose to block the Black Sea if it does not find things conducive to its plans in the Caspian[15].

Russia needs to be able to exploit the oil and gas resources lying beneath the earth's crust. The extraction of these assets in the Caspian Sea has always been difficult for a number of reasons. Firstly, the oil has high sulphur content which requires additional financing for expensive corrosion-resistant pipes for transport; secondly, Caspian is an enclosed sea that is far removed from its centres of consumption and finally, the Caspian sea faces severe climatic and weather conditions making it second only after Siberia for difficulty in extractions[16].

It is difficult to estimate the energy resources of each state on the shores of the Caspian. According to a Russian analysis, Turkmenistan has 6.5 million tone (mt) of oil and 5.5 trillion cubic metre (tcm) of gas (fourth in the world in terms of explored gas reserve). Kazakhstan has 6 billion tone (bt) of oil and 2 tcm of gas; Azerbaijan has 3.5-5 bt of oil and 600 bcm of gas. Russia's oil reserves amount to 1 bt not counting a January 1998 discovery of a new field of about 600mt. The July 1998 agreement between Russia and Kazakhstan divided the seabed but kept the waters above the seabed open for fishing and navigation. This was to avoid poaching by others. The Sturgeon population is decreasing because of pollution, oil production, organised crime and not the least, damning of rivers and waterways.

A large-scale strategically important project for Russia is the building of an export gas pipeline, the 'Blue Stream' initiated by Gazprom along the

[15] Rosemarie Forsythe, ibid, p.63
[16] Ostein Noreng, "Oil in the Caspian Region and Central Asia-The Political Risk of the Great Game Continued", www.caucasus.dk

Black Sea bed from Russia to Turkey. In December 1997, a Russian-Turkish agreement was signed calling for doubling the volume of Russian gas supply to the Turkish market. The only nagging worry is that due to delays in funding the exploration and development work, there is a risk that Turkey might terminate the agreement. Some Russians believe that steps should be taken to lock Turkmen gas to the 'Blue Stream'. This will obviate the need for Turkmenistan to depend on western alternative routes and besides, earn additional revenues for Russia as well as ensure an opportunity to control gas deliveries to Turkey[17].

So much of what happens in the Caspian area is derived from Russia. Much of the technology that Central Asian countries use is Russian and they use Russian pipelines to get oil out of there. They think feel that if there is a Russian content, all things would work better. As per the Central Asian view, having a strategic Russian partner would be awfully good for the pipeline projects. In the economic domain of Kazakhstan, particularly in the energy sector, Russian influence has translated into a number of concessions, or rather 'gifts' that Kazakhstan has been forced to grant, including shares given to Russian companies in the Tengiz oil field, the Karachaganak oil and gas field and the Caspian Pipeline Consortium. The construction of the CPC pipeline from Tengiz to Novorossiisk has proceeded apace. Kazakhstan refrained from criticizing Russia's 1999 military campaign in Chechnya and refused haven to refugees because of reluctance to alienate Russia, fears of separatism within Kazakhstan and misgivings about the spread of Islamic terrorism. Putin's accession to the Presidency

[17] R Hrair Dekmejian and Hovann H Simonian, ibid, p.94

has added impetus to the strengthening of mutual ties, based on greater sensitivity of each other's interests and priorities[18].

Russia competes with Turkmenistan in the supply of natural gas to international market. After permitting the flow of Turkmen gas to non-CIS markets until 1993, Gazprom denied access to its gas pipeline network to Europe. This reduced Turkmenistan's client base to the cash poor CIS republics, depriving it of sorely needed revenues. Gas did not flow through Russian pipelines until the signing of new accord in December 1999 for the delivery in 2000 of 20 billion cubic meter of natural gas. During president Putin's visit in May 2000, Niyazov agreed in principal to supply Russia with an additional 10 bcm; another 30 bcm was promised for the year 2001. From a Russian perspective, the relationship with Turkmenistan is generally held to be satisfactory despite a perceptible irritation at Niyazov's somewhat erratic personality. The frequent changes in the Turkmen position on the legal status of the Caspian have not been well received in Moscow. Barring this irritant, the year 2000 marked the beginning of a more amicable relationship with Russia, prompted by Turkmen disappointment with the lack of progress on western sponsored pipeline projects, disagreements with Iran over gas trade, and the need for Russian military protection against perceived Islamist threats in the Central Asian region[19].

Overall, it appears that despite profound disagreements in Moscow over Russian strategic and commercial interests in the Caucasus and Central Asia, and correspondingly fragmented policy implementations, Russia continues to exercise significant influence over the region. With the increase

[18] Rosemarie Forsythe, ibid, p.64
[19] International Energy Agency, Caspian Oil and Gas: The Supply Potential of Central Asia and Trans-Caucasus, Paris, OECD Publications, 1998, p.110

in oil production from the new oil rich states, the degree of Russian influence will depend critically on Moscow's policy with respect to joint ventures in the area, and the direction in which the export infrastructure continues.

China

China cannot ignore the new Great Game played in Central Asia and the Caucasus region. All major powers have their varying motivations and advantages to gain by exerting their influence on the land locked region. China, advantageously positioned on the border of Central Asia sees an opportunity to broaden its geo-economic role in the region and beyond to become a more important geopolitical force. In the 21st century, China will give higher priority to market penetration and aggressive diplomacy. Further alliances and geopolitical goals in Central Asia, Middle East and Russia will be explored. However, the benefits to China will depend on effective management of uncertainties and the status of Beijing's geopolitical strength.

China's growing economic momentum coupled with its energy vulnerability has led the country to look westward for additional resources. Considering the fact that Central Asia enjoys prolific hydrocarbon resources while China has huge energy demands, there is no doubt about the economic and geopolitical importance of Central Asia to China. What China needs to do now is to build a bridge to link Central Asian resources with its consuming markets. The key element is a regional energy linkage, which is a new visionary way to China's evolving energy situation. Considering the costs of transportation infrastructure inside China and the comparison

between foreign and home oil replacement costs, it makes sense for China to maximize benefits from Central Asia and neighbouring regions[20].

Despite being the world's fifth largest oil producer, economic growth had transformed China into a net oil importing country by 1993. In the first 11 months of 2000, China imported 65.5 mt of oil mainly from the Middle East, which represents a 97 percent increase over the same 11 months in 1999. After more than doubling in size in the 1990s, China's economy is predicted to at least double again in the coming decade. As a result, imports will rise from the current 20 percent of oil consumption to over 40 percent by 2010. Industrial power consumption -70 percent of the total- has grown 10 percent this year[21]. More than 51 percent of Chinese crude oil supply was imported from Middle East in 1996. Beijing was involved in some exploration and production projects in Iraq, awaiting the lifting of UN sanctions. China has also been conducting several studies of oil and gas transportation from western Siberia, eastern Siberia and Russian Far East to its home market.

As the largest emerging market in Far East, China's future demand for oil and gas and eastern pipelines is understood, but many were surprised at the country's early intervention. On June 4, 1997, Kazakh government announced an oil deal with the China National Petroleum Corporation (CNPC), which has promised to invest $4 billion in the Aktyabinskneft enterprise over the next 20 years, with $585 million to be invested from 1998 to 2003, in return for a 60 percent share in the company. The deal also includes an ambitious plan for a 3000 km pipeline to China's Xinjiang Autonomous Region. Aktyabinskneft is based in western Kazakhstan and

[20] Rosemarie Forsythe, ibid, p.43
[21] www.eia.gov

has estimated oil resources of 483 mt. Current output is about 45,000 b/d which would be doubled by 2010. The Kazakhstan official news agency reported in July 1997 that the CNPC had been awarded the exclusive right to negotiate for a contract to develop oil with Uzenmunaigaz, a large oil field in the country. Kazakh official confirmed the news next month. CNPC outbid Amoco, Texaco and Unocal to win tenders in these oil reserves. Thereafter, mass media began to publish commentaries as Chinese westward movement and possible consequences. "Watch out for China", "China Joins the Great Game", and the other similar tones have been widely heard. CNPC has committed hundreds of millions of dollar to enhance Uzenmunaigaz output to 72,000 b/d and rising in this decade.[22]

Considering its goals, advantages and challenges, China would play her own role in the following respects:

- A front player in market penetration: China has unfolded its first phase of expansion strategy in Central Asia. Facing increasingly intensive competition, China stresses an integrated development in the pivotal region. E&P(exploration and production) investment and pipelines are Beijing's priorities in the near future.
- A major operator/co-operator: China would like to be major operator/co-operator in major projects (especially E&P activities, EOR projects, pipeline construction and technical services) as well as a major partner in other projects that fits its interests. By doing that, CNPC is dedicated to being one of the

[22] Philip Andrews-Speed, Xuanli Liao and Roland Downreuther, *The Strategic Implications of China's Energy Needs*, Adelphi Paper no 436, Oxford University Press, 2002, p.59.

top ten international oil companies in 2010. Meanwhile, strategic alliance (for example, joint venture between CNPC and Agip in the late 1997) is another strategy to enhance oversea penetration.

- An important geopolitical force: when the Great Game for hegemony over the Inner Asia unfolded in the late 19th century, China was absent and weakened by internal decline. With socio-economic development in the past decades, China has transformed itself and grown as a major power in the world. As Central Asia has risen as a major area of strategic concern, it demonstrates enormous diplomatic agility in exploiting the nexuses between China and Central Asia. To gain the maximum benefits and mitigate risks, China has several options in playing the new game.

China does not want to interfere politically in Central Asia. Rather, Chinese oil diplomacy in Central Asia, Russia and Middle East would follow an integrated approach and become more aggressive to promote maximum market penetration. To this end, China supports the Central Asian states to enhance their independence, both economically and politically and to promote peaceful and constructive bilateral relations with these neighbours. China also aims to stop trans-border support to separatist movements in Xinjiang[23]. China would like to promote a balance of power in the new game in Central Asia. China and Russia would work together to counterbalance and confront the western involvement. This is important to prevent the west from exerting so strong an influence on the region that

[23] Philip Andrews- Speed, op. cit, p.61

China and Russia are disadvantaged. Or, it is possible that China might enhance her political ties with the west and lower her energy cooperation slant with Russia, if necessary, to reduce Moscow's meddling in the region. The goal is to enhance China's relative position as world economic and geopolitical power[24].

China's energy plans were unveiled at the 2000 National People's Congress. Their focus is the construction of a 4200 km network of gas and oil pipelines running from China's western province of Xinjiang to the major east coast metropolis of Shanghai. The construction of pipeline networks to China's western borders, under the control of the Chinese National Petroleum Corporation (CNPC) and other large energy companies, also opens up the potential for China to exploit the huge energy resources of Central Asia. Theoretically, oil and gas pipelines to China from Turkmenistan and Kazakhstan could be extended to link into the pipeline networks of both Russia and Iran. This model has been dubbed the "Pan Asian Global Energy Bridge"- a Eurasian network of pipelines linking energy resources in the Middle East, Central Asia and Russia through China's pacific coast.

Unable to finance the necessary infrastructure, Beijing has been compelled to open up China's previously insulated energy sector of wholesale foreign investment. Vast sums of capital are required, not only for the multi-billion dollar pipelines, but to upgrade technically backward refineries and develop distribution networks. In July, the Chinese government announced that majority foreign ownership would be permitted in various joint venture projects associated with the west-east pipeline

[24] John Anderson, The International Politics of Central Asia, New York- Manchester, 1997, p.162

network[25]. China's two largest state-owned energy companies have listed subsidiaries on Wall Street in an effort to raise billions of dollars for expansion and restructuring. To make themselves attractive to foreign investors, the Chinese oil companies have implemented large-scale job cuts and divested non-core assets such as schools and hospitals previously provided for their employees. Major international oil companies are aggressively pursuing a stake in the Chinese energy market, now the largest outside the US. In the year 2000, there has been a rush of strategic investments and joint venture announcements. During November 2000, China's premier Zhu Rongji visited South Korea to launch the "Remake West China-Korea Committee", a body aimed at encouraging South Korean investment in the pipeline project. Korea Gas Corporation has already joined a feasibility study examining a possible extension of the proposed gas pipeline from BP Amoco's Kovitkinskoye field in Russia to northern China by further 1,600 km through the north to South Korea. China has made no secret of its desire for massive injections of Japanese investment into the projects. The exact outcome of the present maneuvers in Central Asia and its impact on the strategic equation in North East Asia is not clear. But the international reaction to China's energy plans underscores the central importance of the region and the potential for sharp conflicts.

Mutual self-interest has brought China and Russia together in the "Shanghai Cooperation Organization" (previously Shanghai Five) along with the Central Asian states of Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. Through the grouping, China has sought to align Russia economically and politically toward China and northeast Asia, while Russia

[25] Jennifer Delay, *"The Caspian Oil Pipeline Tangle: a steel web of confusion"* in Michael. P Croissant and Bulent Aras (eds), Oil and Geopoltics in Caspian Sea Region, Praeger, 1999, p-67.

has sought to preserve its traditional influence in Central Asia. Particularly since the NATO war on Yugoslavia and the subsequent occupation of Kosovo, a feature of Sino-Russian relations is the fear that their own separatist strife as in Chechnya or Xinjiang- would be exploited by the US to intervene in the region. The American war in Afghanistan and increasing US profile in Central Asia has increased the worries of Russia and China. Both China and Russia are also bitterly opposed to the development of an American missile defence system that would nullify their nuclear deterrent against US aggression. Consequently, the two states are seeking to counter US influence in Central Asia and develop their relations with other key regional players such as Iran. The Shanghai Cooperation Organization, initially focused on border issues and confidence building measures but subsequently developed into a body with a clear security remit, issuing in 2000 the "Shanghai Convention on fighting Terrorism, separatism and Extremism". The Chinese authorities also found the Central Asian states receptive to their demands for a clamp down on Uighur and other groups seeking to destabilize Xinjiang. Indeed, the Kazakh government was just as keen to repress Uighur secessionist groups since they potentially represent as much a threat to their own territorial integrity, given that an independent Uighurstan would also make claims on Kazakh territory.

The move by China into Central Asia appears to have been driven as much or more by political and strategic considerations than by energy concerns. In economic terms, the construction of a 6000 km pipeline makes little commercial sense when the alternative is to buy from international markets and have the oil delivered by ship to the coast. The political concerns included fears of ethnic and religious linkages between Kazakhs

and Uighurs on both sides of the border fomenting unrest in Xinjiang. The Chinese energy linkage with Kazakhstan was perceived as a useful investment to encourage the Kazakh government to crack down on such groups. The apparent weakening of Russian control in the region and the economic, political and military penetration of the west and the US strengthened the arguments for building close economic and political links with Central Asia.

As with the Turkmen project, economic consideration has been the most significant reason for China's failure to develop its energy investments in Kazakhstan. First was the sudden fall of international oil prices in 1997, which made all petroleum investments in Central Asia look unattractive. Then came the reorganization of China's petroleum industry in 1998 which gave CNPC the opportunity to invest in a range of more attractive activities within China which had previously been off limits, such as oil-refining and marketing and gas distribution. An increasing emphasis on the need to make profits further reduced CNPC's enthusiasm for its Kazakh projects. Finally, CNPC became increasingly frustrated at the administrative and fiscal obstacles it was encountering doing business in Kazakhstan, which was mirrored by Kazakh disenchantment at CNPC's perceived failure to honour its contractual obligation.

The conclusion that can be drawn is that by the middle of 2001 economic reality combined with the emergence of other investments for dealing with China's security concerns in Central Asia had undermined the earlier politically driven enthusiasm for developing the energy resources of Kazakhstan. As a consequence, the CNPC's investment plans in Central Asia, though not dead, were nearly dormant. However, political and strategic

developments might evolve to revive Chinese interest. The events of 11 September 2001 have triggered a reevaluation by the Chinese government with energy security assuming an increasingly important prominence for the top leadership. They might yet decide that the current dependence on the Gulf for oil supplies is required to counterbalance the growing US influence, and that the Kazakhstan oil pipeline should be constructed, regardless of the cost.

Iran

Iran's interests are briefly to getting the Caspian and Central Asia oil to the Gulf and establish close political and economic ties with the region. First, Iran has a desperate need for foreign exchange and would benefit from oil and gas transit fees; second, with oil and gas transit, Iran would be in a better position to develop trade with the region. Central Asia could eventually become an important market for Iranian manufactured goods. In turn, the combination of oil and gas transit and trade could establish Iran as regional power in Central Asia. Third, with oil transiting from Central Asia to Iranian Gulf ports, Iran would strengthen its position in the Gulf, essentially in relation to Saudi Arabia. Emerging as a Central Asian power would also reinforce Iran's position in relation to the Gulf neighbours.[26]

Occupying the southern coast of the Caspian, Iran is the second most powerful riparian actor in the geopolitics of the region after Russia. Iran has had a distinct political and cultural identity for three millennia, unlike its Muslim Central Asian neighbours, whose national identity is in its formative

[26] Ostein Noreng, "Oil in the Caspian Region and Central Asia-The Political Risk of the Great Game Continued", www.caucasus.dk

stage. Iran is one of the world's leading oil producers, with a daily output of 3,515,000 barrels in 1999. Despite constraints imposed by the US, several European oil companies have become major players in Iran's oil and gas sector. With enormous gas reserves, Iran is a major producer and an emerging exporter. Much of Iran's gas is used domestically and in order to realize its ambitious plans to export gas, the government would need to find funding to build extensive pipelines. When these projects come to fruition, Iran will emerge as a significant competitor to neighbouring gas producers such as Qatar, Russia, Kazakhstan and Turkmenistan.[27]

American opposition to the Iranian route is based on a number of factors. Principally and most importantly, the Iranian revolution of 1979 was a challenge and remains such from the point of view that it is the so-called 'threat of a Good Example'. The long term US interests has remained to discourage other countries from following the Iranian example. Such a course would in the long run, be possibly fatal for the profits of the American banks and arms companies who do so much business with the Arab elite, as the nationalist regimes would be more concerned with developing a native industrial base. Also in the particular case of Middle East, loss of American influence would also mean a loss of some American influence over Japan and Europe (the places which actually are dependent on Middle Eastern oil unlike the US). Thus in the last twenty odd years, Iran has been both directly attacked by the US and as well as by Iraq with US support.

Iran and Russia share a number of mutual interests beyond their commercial ties in the defence sector and the civilian nuclear power

[27] International Energy Agency, Caspian Oil and Gas: The Supply Potential of Central Asia and Trans-Caucasus, Paris, OECD Publications, 1998, pp. 114-115

industry. Unlike the US, Russia does not oppose the building of a Trans-Iranian pipeline to export Turkmen gas.[28] Continued access to the Iranian ports on the Persian Gulf is important for Russia. The two states view with suspicion the growth of American and Turkish influences in the former Soviet south, which in the Caspian context, is expressed by their opposition to the building of the Baku-Ceyhan and the trans-Caspian pipelines. The emergence of a US-Turkish-Azerbaijani axis has made close Russian-Iranian ties a geopolitical imperative. Furthermore, Iran and Russia supported the factions opposing the Pakistani-backed Taliban in Afghanistan. Iran fears unrest on its northern border and appreciates the presence of Russian military units in the Caucasus and Central Asia.[29]

Despite the generally friendly tenor of Iranian-Russian relations, it should not be forgotten that the two countries remain competitors for the transit of Caspian oil and gas. In addition, several conflictual issues have emerged in recent years. In July 1998, Iran opposed the Kazakh-Russian agreement on the division of the Caspian seabed, emphasizing the necessity of equal sharing of undersea wealth by the littoral states. Another point of contention is Iran's displeasure with the human rights violations of the Russian military in the second Chechen war, despite Moscow's assurances that its campaign does not have an anti-Islamic objective.[30] Inspite of all the differences, the amicable state of relations between Iran and Russia is the result of common interests in Central Asia. One such is the geopolitical

[28] Hanna Yousif Freij, "State Interests Vs. the Umma: Iranian Policy in Central Asia", *Middle East Journal*, Vol. 50, No. 1, Winter 1996, pp.77-78
[29] Edmund Herzig, *Iran and the Former Soviet South*, London, RIIA, 1995, p. 17
[30] Michael Helyveld, "Russian: Iran Maintains Strained Relations", *RFE/RL Weekday Magazine*, 3 December 1999.

realm being to contain US and Turkish expansionism, in conformity with balance of powers and neo-realist theories.[31]

Iranian-Kazakh relations were initially slow to develop, as Kazakhstan did not want to antagonize the US, feared Iranian proselytism and as unimpressed by the Iranian model of Islamic government. However, once Kazakhstan realized that Iranian priorities were mostly of an economic nature, relations developed with fewer constraints. After the mid-1990s, US opposition to Kazakh-Iranian ties became a lesser concern because Kazakhstan was replaced by Uzbekistan as America's most favoured Central Asian partner. Some 45 Iranian companies were operating in Kazakhstan by spring 1995 and the figure increased to 250 by mid-1997.[32] Due to its geographic location, Iran represents for landlocked Kazakhstan the most economically sensible route to the outside world. The two countries are now connected by land after the inauguration in April 1996, of the link between the Turkmen and Iranian railway networks. In a statement made during his visit to Washington in November 1997, Nazarbayev did not exclude the construction of a Kazakhstan-Turkmenistan-Iran pipeline. Agreements have been signed concerning long-term pipelines projects and immediate oil swap deals, although technical problems and disagreements have led to interruption of oil deliveries. Contacts have been established at the sub-national level as well, between Iranian and Kazakh provinces of the Caspian littoral.[33]

It is with Niyazov's Turkmenistan that Iran has found its most flourishing Central Asia relationship. The independent minded Niyazov has

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[31] R. Hrair Dekmejian and Hovann H Simonian, *Troubled Waters: The Geopolitics of the Caspian Region*, I.B.Tauris, 2001, P. 79

[32] "Iran and Kazakhstan", *Gulf States Newsletter*, 22, No. 566, 28 July 1997, p. 10

[33] Adam Tarock, "Iran's Policy in Central Asia", *Central Asia Survey*, Vol. 16, No. 2, June 1997, p. 195

remained deaf both to American warnings against the threat of Islamism from Iran and to Iranian discontent at his dealings with Taliban, Pakistan and Israel. Turkmenistan desperately needs to export its gas and oil to international markets because its CIS clients have been unable to pay for their gas supplies. Iran provides Turkmenistan with one of its most realizable options to reach the outside world. This possibility explains Niyazov's persistent pursuit of the trans-Iranian gas pipeline project, and the construction of a link between the Iranian and Turkmen railway networks, even at the risk of alienating the US.[34] Thus Turkmenistan would welcome any improvement in US-Iranian relations, which would help resolve its pipeline dilemma.

Furthermore, given Turkmenistan's small population, it cannot afford to antagonize Iran, with which it shares a 1500 km long border. It also regards Iran as a counterweight to Uzbek expansionism. Finally, Turkmenistan has periodically sided with Iran and Russia on the question of the legal status of the Caspian, criticizing Azerbaijan's 'unilateral' decision on that issue. In an expression of solidarity, in July 2000 that Turkmen Foreign Minister told the Russian Special Envoy on the Caspian that his country would not take part in any discussions on legal status without Iran's participation.[35]

Current proposals to market gas out of Iran and Turkmenistan have strong geopolitical overtones. The route from Turkmenistan to Turkey through Iran concerns the shipment of Turkmenistan gas to the huge western market. This would bring gas through a pipeline already completed from

[34] Dilip Hiro, "Turkmenistan and Iran: US Advice Ignored", *Middle East International*, No. 551, May 30, 1997, p. 19-20

[35] "Turkmenistan to Discuss Caspian Status Only If Iran is Included", *RFE/RL Turkmen Report*, 24 July 2000.

Korpeje to Kurtkui in Iran that would then link up with the existing Iranian gas pipeline system that flows westward to Neka. Iran would merely be the transit state since it would be Turkmen gas that would be supplied to Turkey. However, over the long run, this could compete with Iranian plans to develop gas fields in the south and link them to the pipeline systems in the north. There may be a situation where over a period of years Turkmenistan and Iran would become competitor for supplying gas to Turkey. It is not yet clear what the status of the Turkmen-Turkey pipeline via Iran will be and whether or not it will be covered by US sanctions legislation.

It is in the individual interests of US companies (not to mention French ones, Japanese etc.) to trade with Iran and indeed use the opportunity offered by the Iranian route to export Central Asia energy resources to South Asia. Furthermore, it is in the interests of the Central Asian Republics to do so. The Iranian option simply makes the best economic sense, all the more so because it already exists. Unless an alternative is developed, market forces will compel companies to develop the resources of Central Asia via Iran. The war in Afghanistan is a major barrier to constructing the only possible pipeline, which could deliver straight to the South Asian market while avoiding Iran.

Turkey

In the last decade, Turkey has sought to play a formative role in the politics of the Trans-Caucasus, Central Asia and the Caspian basin. Unlike the apprehensive attitude of china and Iran, Turkey welcomed the independence of the former Soviet Central Asian Republics. Indeed, the breakup of the Soviet Union provided Turkey with an auspicious and timely opportunity to

obtain a new role enhancing its status in the eyes of the west. The end of the cold war had left Turkey, which had presented itself as staunch defender of NATO's southeastern flank, with diminished importance in the new European geopolitical context. The restoration of Turkey's international position was also due to the expectation that it could develop privileged links with the five Republics of the former Soviet Union with which it shared a common Turkic cultural heritage.[36]

There was no general agreement in Turkey on how the relationship with the newly created Turkic states would be shaped. Proposals ranged from the establishment of economic and cultural bonds to the creation of a union or federation based on pan-Turkish ideology. What these proposals had in common was that Turkey would play a pivotal role in the regional politics and economies of the newly independent Trans-Caucasian and Central Asian states. After having spent years as the last country of Europe, Turkey aspired to occupy a dominant position in the new regional setting created by the Soviet demise. Also at issue was how Turkey's new Central Asia focus would affect the other priorities in Turkish foreign policy, such as relations with Western Europe and the Middle East. This issue found its partial solution in the formulation that Turkey would be the 'bridge' between the west and central Asia and would offer its own western-oriented model of economic and political development to these countries.[37]

In retrospect, Turkish foreign policy toward Central Asia in the last decade went through three successive phases. The initial phase can be described as one of idealistic enthusiasm driven by emotions and pan-Turkish myths and dreams, harking back to the Ittihadist (Young Turk)

[36] R. Hrair Dekmejian and Hovann- H. Simonian, ibid, p. 93.
[37] Gareth M. Winrow, *Turkey in Post-Soviet Central Asia*, London, RIIA, 1995, p. 107.

ideology of the last days of the Ottoman Empire. However, it soon became clear that the results of Turkey's involvement in the former Soviet south fell for short of its original expectations, which had been set too high and with little knowledge of local conditions. The capacity of Russia to retain influence in the area had been neglected by early Turkish analysts, who saw only Iran as an obstacle to the expansion of Turkish influence. Also, Turkey proved incapable of directly challenging Russia in the region.

In Central Asia, a feeling of mutual disenchantment followed the initial optimism when it became apparent that Turkey lacked the financial capability needed to revive the moribund Central Asia economies. Turkish initiatives at the regional level, such as the Black Sea Economic cooperation, or sponsorship of conferences of Turkish States, failed to produce concrete results. Despite the rhetoric on shared ethnicity and identity, there was also a cultural gap separating the Turks of Turkey and the Turkic peoples of Azerbaijan and Central Asia. This gap was not only the consequence of Russian/Soviet hegemony, but of centuries of separation during which Central Asia and Ottoman Empire had been cut off from each other by Sh'iia Persia. In addition, Turkey's paternalistic attitude was resented in Central Asia, whose leaders did not want to exchange Soviet domination for a Turkish one.Pan-Turkism did not have a strong appeal in Central Asia and in the rare cases when it did, such as in Uzbekistan, it took a form different from the model propounded in Turkey. Karimov, the Uzbek leader, does not oppose pan-Turkism, as long as its epicenter is Tashkent and not Ankara. His position is similar to that of his distant predecessor, the Emir of Bukhara, who at the turn of the 20th century, expressed interest in the nascent

pan-Turkish movement only if it would be led by him and not by the Sultan in Istanbul. [38]

However, the Turkish experience in the first years of the newly independent states should not be discarded as a mere failure. The level of Turkish activity in the area, in view of the limited capacity of the Turkish economy, was quite remarkable. The audacity of Turkish entrepreneurs contributed perhaps more than government policies to making Turkey a major trade partner of these countries.[39] Abandoning its initial illusions while maintaining its ambitions, the Turkish government developed more realistic policies that emphasized country-to-country relations over grand regional schemes.

The second phase of Turkish policy toward Central Asia and the Caucasus was one of the relative indifference prompted by the limited successes of the first phase as well as changes in Turkey's internal politics. The rise of the Islamist current culminating in the accession of the Welfare (Refah) Party leader Neemettin Erbakan to the Prime Ministership in June 1996, resulted in a temporary refocusing of Turkish foreign policy away from the Turkic east and closer to the Muslim/Arab orbit. Also, there was considerable indifference toward Turkish concern in Central Asia.

In the years since Erbakan's ousting by the Turkish military in late June 1997, a more activist phase of Turkish foreign policy has become discernable. In this phase, the hydrocarbon resources of the Caspian have come to play a central role in Turkish foreign policy. The centerpiece of this policy is the building of the Baku-Ceyhan pipeline through Turkish territory.

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[38] Helene Caware d'Encausse, *Islam and the Russian Empire: Reform and Revolution in Central Asia*, I.B. Tauris, London, 1988, p. 66

[39] Anthony Hyman, "Turkey; Eastern Approaches", *The Middle East*, No. 242, February 1995, pp. 32-34

Turkey's geopolitical and economic benefits from this pipeline would include:

- Transit fees and other economic benefits
- A reduction of energy dependence on Arab supplies
- Increased utility and prestige in the eyes of the west
- A strengthening of its economic and political position in the Caucasus and Central Asia

Indeed, Turkey's interests in providing transit for Central Asia oil goes back to the early 1990s. Ankara came close to success in March 1993, when an outline agreement was reached on the construction of a pipeline between Baku and the oil terminal of Yumurtalik, located in the Gulf of Ceyhan on Turkey's Mediterranean coast.[40] These hopes were dashed a few months later when Azerbaijan premier Elchibey's exclusion of Russian companies from oil contracts may have contributed to his overthrow by a Moscow backed coup in June 1993; his successor, Haidor Aliyev, cancelled all contracts signed by the Elchibey government.

This setback was deeply resented in Turkey, where the Baku-Ceyhan pipeline would soon become a national obsession. In July 1994, Turkey retaliated by restricting oil tanker transit through the Bosphorus straits, arguing that, should the main export route for Azerbaijani and Kazakh oil go through Norossiisk, the increased traffic could cause accidents with catastrophic consequences for Istanbul.[41] This was accompanied by an

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[40] Anoushiravan Ehteshami and Emma C Murphy, "The Non-Arab Middle East States and the Caucasian/Central Asia Republics: Turkey", *International Relations*, Vol. 11, No. 6, December 1993, pp. 513-531

[41] Suha Bolukbasi, "Ankara's Baku-Centred Trans-Caucasia Policy: Has it Failed?" *Middle East Journal*, Vol. 51, No. 1, Winter 1997, pp. 88-89

intense campaign in which officials, journalists and academics were enlisted to promote the indispensability of a Turkish route for Central Asian oil and gas exports. The political and strategic advantages of having a pipeline running through Turkey, rather than Iran and Russia were presented as incentives to encourage western countries to invest in the costly project, which Turkey could not afford to finance. The pipeline campaign intensified in 1997 and included emotional appeals directed at he Azeris and Central Asians, culminating in a boycott of BP and Amoco in November 1998, for their reticence to endorse the project.[42]

The growing American involvement in the Caspian area, while enhancing the chances of building the Baku-Ceyhan pipeline, underlines Turkey's inability to play a decisive role in the region. Russia's ability to confront the Turkish challenge to its regional leadership prompted the necessity of direct American intervention in an attempt to loosen the Russian hold on the Caspian and its energy resources. To be sure, the extent to which Turkey intended, or could afford to antagonize Russia, remains an open question. Despite the multiple flashpoints in Turkish-Russian relations, the two sides have sought to maintain a working relationship based on certain shared interests. Notwithstanding the rhetoric to Turkish-Central Asian solidarity, the volume of Turkish trade with Russia is higher than that of the combined Turkish trade with the Central Asia, Azerbaijani and Georgian republics.[43]

In December 1997, Russia and Turkey signed a $20billion contract for the delivery of Russian gas to Turkey. The construction of this pipeline

[42] John Barham, "Turkey Presses case for Pipeline", *Financial Times*, 5 September 1997, p. 1
[43] Amberrin Zaman, "Turkey: Historic Rivals Find Some Common Grounds", *The Middle East*, No. 249, October 1995, pp.14-15

12. *IPR Strategic Business Information Database*
13. *Jamestown Foundation Monitor*
14. Jane's Intelligence review
15. Journal of peace studies
16. *Middle East International*
17. Middle East journal
18. *Middle East Policy*
19. Pacific review
20. Petroleum Economist.
21. Policy journal
22. Post soviet Geography
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project known as 'Blue Stream' has been underway since may 2000, while new funding from international investors during the same months has reinforced its viability, in contrast to the declining fortunes of the Trans-Caspian pipeline to transport Turkmen gas. Hence, Niyazov's rage at the visiting Turkish Energy Minister in October 1999 and the ensuing controversy in the Turkish press about the ostensible betrayal of Turkic solidarity by the making of a deal with Turkey's Russian rival.[44]

Ankara is particularly keen to build the pipeline to carry Caspian oil out through Turkey, anticipating the substantial benefits in terms of income and jobs such a pipeline would bring. However, the outcome of Turkeys' review of limits on tanker traffic through the Bosphours Straits could significantly affect wider deliberations on transport routes for this oil. Plans for a pipeline through Turkey may also be complicated by Ankara's struggle with Kurdish separatists in the region through which the pipeline would pass. That said, a decline in Kurdish terrorism during the past two years, and the Turkish government's pledge to provide protection for the pipeline, may help ease concerns on this point. Another, perhaps less tractable problem for Turkey's pipeline aspiration is that oil from Azerbaijan and/or Kazakhstan would have to go through Iran and/or war-torn Armenia or a politically precarious Georgia before reaching Turkey. None of these routes is particularly secure; all pass through politically unstable regions. Further, financing the infrastructural improvements required for an Iranian route would present serious policy concern for the US.[45]

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[44] Saadet Oruc, "Debate on Turkmen Gas Intensifies, Criticism Against ANAP Continue", *Turkish Daily News*, 14 October 1999.
[45] Rosemarie Forsythe, pp. 2-3

CHAPTER 5

CONCLUSION

After the breakup of the former Soviet Union, the five Central Asian Republics started their quest towards economic development. Their oil and natural gas resources were looked upon as means to prosperity. The combined proven oil and gas reserves of Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan and Kyrgyzstan are estimated to be about 68 billion oil barrels equivalent. Many fields are under exploration and a much larger amount of hydrocarbon deposits is expected in the Caspian Sea and Central Asian region. Out of these five Republics only Kazakhstan and Turkmenistan are having enough resources to make them prominent exporters in the future. Other three states have only modest reserves.

Each of the Central Asian countries is land-locked depending on other countries to transport their oil and gas to world markets. They remain economically tied to Russia and as a result, suffered losses after Russia's August 1998' financial crisis. Since then they have become more competitive economically and each country has experienced growth. Central Asia's remoteness and lack of infrastructure to export its oil and natural gas has led to slowing down of development process.

The proximity of Central Asia to China, Russia and Afghanistan gives it immense geo strategic importance. Construction of pipelines to transport oil and gas to consumer countries is the central issue in the region's geopolitics. Continuing regional instability, autocratic leadership, lack of finances for pipeline construction and poor technological capabilities add to

the problems of Central Asian countries. The pipeline issue involves a plethora of players – producing states, major oil companies, regional and global powers, transit countries and ethno-nationalist groups.

Kazakhstan is the largest country in Central Asia. The possible reserves in major oil fields of Kazakhstan, viz, Tengiz, Karachaganak, Kashagan etc.... are estimated to be about 50 billion barrels. Kazakhstan also has a proven reserve of 65 billion cubic feet of natural gas but its gas industry is underdeveloped. The gas production in 2001 was 324 billion cubic feet while oil production was 40 million tons. The Tengiz oil field with six to nine billion barrels of estimated oil reserves is being developed by Tengizchevroil joint venture (with the participation of Chevron Texaco). The production per day in mid-2002 was 2,50,000 barrels which is expected is reach a peak of 7,50,000 barrels per day by 2010. The Karachaganak oil field have started production and the work on the offshore Kashagan field is still in the exploration stage.

Turkmenistan has some of the world's largest deposits of natural gas with proven reserve of approximately 101 trillion cubic feet. Major reserves are found in Amu-Darya basin and Murgab basin. It also has 546 million barrels of proven crude oil reserves. In 2001 Turkmenistan produced 1,60,000 barrels of oil per day and 1.64 trillion cubic feet of gas.

Central Asia contributed the bulk of Russia's and later Soviet Union's oil production till 1960s. The largest reserves of explored oil in the region were concentrated near the Caspian Sea and the oil extraction technology was less developed than in the west. The collapse of the former Soviet Union has led to extensive exploration activities in Kazakhstan and Turkmenistan. More foreign direct investment is flowing and multinational

oil companies with advanced technology and financial resources are dominating the energy sector of Central Asia.

A major aspect of the international competition over the exploitation of these resources is the struggle over which route to take to the sea and the global market. Prior to the collapse of Soviet Union, the Central Asian countries have transported their oil through old Soviet pipelines which are very old and built with out-of-date technology. This infrastructure will be insufficient to carry all the crude that will be produced regionally in the coming years. There are several projects underway or have been completed for carrying oil and gas to Eastern and Western markets.

There are 14 pipeline routes out of which five pipelines are operational. The oldest pipelines are, (a) Central Asia Centre pipeline that carry 3.5 trillion clubfeet of gas per year from Turkmenistan to Russia (b) the pipeline that carries gas from Uzbekistan to Russia and (c) The oil pipeline from Atyrau in Kazakhstan to Samara in Russia. All the three pipelines are operational since Soviet era and connect Central Asian Republics to Russia. They have medium capacity and need up-gradation. Their combined capacities can meet only a fraction of the transportation needs of Central Asia. The only operational route that bypasses Russia is the Korpezhe-Kurtkui pipeline which was completed in 1997. It is a small size pipeline that carries 154 billion cubic feet of gas per year from Turkmenistan to Iran. The latest and biggest pipeline that is operational in Central Asia is the Caspian Pipeline consortium (CPC) pipeline, operational since March 2001. In 2001 this pipeline carried 2,40,000 barrels of oil per day from the Tengiz field of Kazakhstan to the Russian port of Novorossiysk. The major shareholders of CPC are Chevron and government of Kazakhstan.

All the natural gas pipelines that are proposed and are under construction originates from Turkmenistan, which has largest natural gas reserves in Central Asia. The southern route through Iran to Turkey is the easiest option for Turkmenistan to export gas. It can export 1.5 billion cubic metre of gas per year. though an agreement was signed, American opposition to the route via Iran led to the stalling of the project. Without American approval, international financial institutions would not guarantee $3 billion that will be incurred for the construction.

The United States has been supporting the Transcaspian pipeline that connects Turkmenistan to Turkey through the Caspian sea floor. Even though the contract was signed, it was shelved later due to the difficulties and high cost of laying pipelines under the Caspian sea. Another ambitious project is the gas pipeline from Daulatabad field of Turkmenistan to Multan in Pakistan through Afghanistan. It is also proposed to be extended up to India. The lead was given by the UNOCAL corporation of US assisted by Delta of Saudi Arabia and some other multinationals. But the construction plans were suspended in 1998 due to civil war in Afghanistan and the US missile attacks on suspected terrorist training camps. The Central Asian oil pipeline is proposed by UNOCAL, from Kazakhstan to Gwadar port in Pakistan, but remains highly doubtful. It will run parallel to the proposed gas pipeline route through Afghanistan. The reservation of the international investment community, wary of becoming involved in a volatile area and the reservation of Russia and India, suggest that enthusiasm about this project may be premature.

The most ambitious of all pipeline projects is the pipelines proposed to be built to China. The oil pipeline from Kazakhstan to Xinjiang is about

1800 miles long and total investment required by China including oil field development is $ 9 billion. The gas pipeline would cost another $ 10 billion. It will stretch 4200 miles from Turkmenistan through Uzbekistan to China. The rough terrain and Uighur problem in Xinjiang along with high costs makes the project difficult to be under taken.

All the oil pipelines that are proposed to be constructed starts from Kazakhstan. A medium capacity oil swap project is under construction, in which a pipeline will carry Kazakhstani oil from the Caspian to Tabriz refinery of Iran to be consumed locally. Same amount of Iranian oil will be delivered to Kazakhstan in the Persian Gulf coast of Iran. The most practical and economical route is from Kazakhstan to Iran. The pipeline passes through safe territories and it costs only $1.5 billion. It provides easy access to the growing South Asian market. It would not have to go down upto the Persian Gulf because it can be connected into the existent network of Southern Iranian pipeline grid. This route offers better dividends as the is very strong and other proposed pipelines are quiet difficult.

The Western Trans-Caspian Oil pipeline from the Caspian coast of Kazakhstan through Azerbaijan to Ceyhan port of Turkey is supported by America. The pipeline under the Caspian Sea will prove costly and difficult and may take years to complete. Russia and Iran have argued vociferously against construction of underwater pipelines across the Caspian pointing out Caspian Sea legal conflicts and environmental problems.

The pipeline projects face many problems. The Caspian Sea is having a fragile ecosystem. There exist legal conflicts between littoral states regarding the status of Caspian Sea. Regional instability and terrorism in and

around Central Asia hampers many pipeline routes. Moreover, there is still uncertainty about the size of energy resources in the region.

Several factors are likely to increase the developmental costs of Central Asian oil to place it among the most expensive in the world. The development of oil deposits under the Caspian requires highly sophisticated and expensive infrastructures. Although production costs in the existing fields are relatively low at around $ 5 per barrel, the capital cost per daily barrel of oil beyond peak production capacity is $ 12000 - $ 14000 in Kazakhstan compared to $ 1000 in Iraq, $3000 in Kuwait and $ 2500-$4000 in Saudi Arabia. Pipelines are a very costly means of transportation. High investment costs, high up gradation and maintenance costs and demanding physical terrain would increase the cost of pipeline transportation. Added to these costs are the royalties, transit fees and management fees. All these factors will reduce the share of the Central Asian countries to one third of the actual sale price of their crude oil.

The Central Asian countries suffering from economic recession are starved of cash. Their net profit on a barrel of crude oil is upto $13-14 lesser than the international market price. Even then substantial amount of foreign exchange would come into their economies which may lead to overvalued domestic currency which allows the local population to buy imported goods rather than manufacture locally. Cheap foreign labour may be imported as in Persian Gulf instead of using more expensive local labour. Military forces, luxurious palaces, wanted construction and a bloated beaurocracy seem to eat up the funds as they become available.

The case of Tengizchevroil (TCO) shows that the target production could not be achieved due to difficulties in transportation. TCO still

accounts for the largest foreign investment in Kazakhstan. The total cost of oil production, transits fees and pipeline operation amounts to 6-7 dollars per barrel. Out this of total cost, major part is shared by royalties and management fees paid to foreign oil companies. In any eventuality Chevron's minimum expected return would be met out of TCO joint venture.

The GDP of Kazakhstan fell continuously between 1990 and 1995. An improvement took place in 1996 when GDP rose by 0.5 percent and in 1997 by 2 percent only to drop 2.5 percent in 1998 because of Russian economic crisis. The GDP grew impressively in the past three years, buoyed by increased oil exports, as well as by prudent fiscal policies and economic initiatives in 1999. The main driver behind Kazakhstani's economic growth has been foreign investment; mainly in the country's booming oil and natural gas industries. The oil industry currently accounts for approximately 30 percent of Kazakhstan's budget revenue and half of export revenue. It is estimated that, during its 35 to 40 years of expected life, the CPC pipeline could bring in $ 8 billion in taxes alone for Kazakhstan.

Following several years of decline since its independence from the Soviet Union in 1991, Turkmenistan economy has rebounded in the past four years. It suffered a 25.9 percent drop in its real GDP in 1997 when Russia closed off its pipeline network. Since the resolution of the dispute with Russia, Turkmenistan's natural gas exports have increased dramatically, spurring the country's economy. Turkmenistan's outlined a new energy policy that it hopes will result in investments in oil and gas projects of $46 billion by the year 2010. Its target for 2010 is to produce 48 million tons of oil and 120 billion cubic meters of gas. In order to export and

be paid in a timely manner, it must build more pipelines through Iran, Caspian Sea or Azerbaijan.

External powers have gradually increased their involvement both in economic and political realms of Central Asia after the disintegration of Soviet Union. Their interests are varied in terms of energy needs, pipeline routes and strategic formation. Such on external interference create a range of pressures on oil development and transportation in the region. The presence of Central Asian oil reserves and the possibility of their export raise new strategic concerns for the US and other Western industrial powers. Central Asia has attracted US interest mainly because of its oil, strategic location and vulnerability of the region. The policy goals of US include financial and technological assistance to Central Asian states, commercial involvement in the region's oil production and diversification of world oil supplies to reduce future dependence on Persian Gulf. US relies on active diplomatic support for its oil companies, government trade and commercial bodies and international companies to achieve its aims. US promotes multiple short and long term pipeline routes especially through Turkey. The United States also intends to extricate the Central Asian Republics from the Russian sphere of influence and pursue the policy of containment and isolation of Iran. Due to the anti-Russian, pro-Israeli and anti-Iranian stands of Uzbekistan, it has emerged as the favored partner of America in Central Asia. But apart from the Baku-Ceyhan agreement there has been little in the form of tangible success for the US in the area of oil transportation in Central Asia.

Russia continues to exercise significant influence over Central Asia. Due to the lack of progress on western sponsored pipeline projects and the

need for Russian military protection, Central Asian Republics prefer an amicable relationship with Russia. Main objectives that shape Russian policies towards Central Asia are to secure a friendly buffer zone in the south, ensure stability in the region, maximize economic benefits from energy reserves, weaken the US and NATO designs and strengthen ties with Iran. Much of the technology that Central Asian countries use is Russian and there is a general view that, having a strategic Russian partner would be good for the pipeline project.

China, advantageously positioned on the border of Central Asia sees an opportunity to broaden its geo-economic role in the region and beyond to become a more important geopolitical force and to satisfy its huge energy demands. China's oil imports will touch 100 million tones per annum in the next two years. China envisages a regional energy linkage. It has entered into deals with Turkmenistan and Kazakhstan for an investment of about $ 10 billion in oil fields and pipelines. It aims to stop transborder support to separatist movements in Xinjng and wants economic and political stability in Central Asia. It is working together with Russia to counterbalance western involvement. Regardless of the high costs to construct pipelines to China, these investments help to achieve its strategic objectives.

Iran is working hard to route the pipelines through its territory in order to establish close political and economic ties with the region. It can satisfy its desperate need for foreign exchange, develop more trade relations with the region and strengthen its position in the gulf through oil and gas transits. For Central Asian countries, the Iranian route simply makes the best economic option. It represents the most sensible pipeline route to the outside world. Iran has the support of Russia in building a trans Iranian pipeline.

Iran and Russia have common interests in Central Asia with regard to Caspian sea and security concerns. But the projects are stalled due to lack of financing and due to staunch US opposition.

Turkey had sought to play a formative role in Central Asia for economic benefits from transit routes and to enhance its position in the new European geopolitical context after the disintegration of USSR. Initial phase of Turkish foreign policy towards Central Asia was based on Pan-Turkish fraternal and ideological ties. But its financial and strategic inability to challenge Russia led to considerable indifference towards the region later on. After 1997, Turkey started taking an active interest in hydrocarbon reserves and Baku-Ceyhan pipeline project with the support of US.

It can be concluded that even though hydrocarbon deposits in Central Asia are not large enough to make considerable changes in world prices, the activities related to these resources are taking place it a fast pace. Major powers in the world are pursuing their national interest and are trying to increase their influence in the region. Various pipeline projects are in various stages of implementation. Central Asian countries are expecting these pipelines to open the door of economic development for them.

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