

Environment and Security East Caspian Desk Study

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1 Regional situation since independence

In 1991, the newly formed east Caspian states of Kazakhstan and Turkmenistan found themselves, along with the Central Asian and Caucasus republics, and much against their will, broken off from the USSR. They faced multiple initial challenges: integrating the international community as sovereign nations, securing their borders, establishing political and economic systems - under the interested scrutiny of such formidable regional powers as Russia, Turkey, Iran, China and Pakistan, as well as the world's remaining superpower, the United States. These were poised to prospect and export the Caspian basin hydrocarbon riches. The lack of thorough prospection pre-1991 fuelled hopes of unproven reserves capable of rivalling the Persian Gulf, according to the most optimistic [26, 29, 25]. Before the quantity of proven reserves could justify the tremendous expense, and before the legal status of the Caspian sea had been agreed upon, each regional and world power had made plans for new pipeline infrastructures serving their geopolitical preferences.

Since 1991, the East Caspian has been the centre of a whirlwind of international interest, a mixture of courtship and coercion. Lost in the hydrocarbon frenzy and the fascination with the "pipeline war" are the impacts on the local long term regional political and economic security or on the Caspian Sea environment, home to the disappearing caviar-producing sturgeon.

2 The context of the Caspian

The Caspian sea is the world's largest inland body of water [19] at 371,000 km², a bit larger than Germany. It is both landlocked (no connection to the ocean) and endhoreic (no water outlet). The level of the Caspian is determined by the inflow of the flow of the Volga, a river with a large catchment basin. Precipitations in this area are linked to climate factors reaching to the North Atlantic. As a result, the sea level can change rapidly: falling 3 meters from 1929 to 1977, rising 3 meters from 1975 to 1995, with smaller oscillations since then [27]. The salinity of the Caspian is 1.2 ‰, roughly a third that of open sea water. The Caspian shares some characteristics of lakes and some of seas, and could be claimed to be either. The lake-sea categorisation is not merely an academic nicety: the boundary and exploitation modalities may depend on this definition.

The Caspian is also a natural frontier region: connecting Europe and Asia, Russia and the Gulf states, especially Iran. The Caspian basin includes major river deltas as well as wetlands, which serve as habitats for biological diversity, including reproduction of fish. The main rivers are the Volga (Russia), Kura (Azerbaijan/Georgia), Ural (Kazakhstan/Russia), Emba (Kazakhstan), Kuma (Astrakhan/Kalmik, Russia), Terek (Dagestan, Russia), Sumgayit (Azerbaijan), Atrek (Iran/Turkmenistan), Sulak (Dagestan, Rus-

sia), Samur (Azerbaijan/Russia), Shafa-Rud (Iran) and Safid (Iran). The Caspian Sea is the ending of the Volga River, the longest (3531 km) river in Europe, and largest in watershed basin (1360,000 km²) and annual discharge. The Volga is a vehicle for industrial, agricultural and human settlement waste - and the Caspian is the repository of the Volga pollution, with no outlet [31]. The Caspian Sea basin is a unique ecological system with about 400 species endemic to the Caspian waters. Some of the species present economic and commercial significance to the littoral states. The Caspian climate, especially in the north-east sector, swings through extremes of hot and cold. Human and animal life in these rugged conditions depend on the basic ecosystem's resilience. Water pollution is a grave risk to the Caspian area.

There are three outstanding major issues in regulating the Caspian Sea: the prospection and exploitation of underwater hydrocarbon reserves, the transportation of merchandise (by ship or underwater transboundary pipeline) and fishing access.

If the Caspian sea is considered as lake, the body of water is divided by extensions of the land borderlines by consensus of the bordering states. This was in effect the status of the Caspian from 1921 to 1991, divided among the two bordering states of Iran and the USSR and regimented by a succession of bilateral treaties. The legal status of a sea is markedly different, laid out by the United Nations Law of the Sea, the Montego Bay convention of 1982 [1]. If the Caspian Sea is considered a sea, each country is allotted a strip of coastal waters of a few tens of kilometres. The inner bulk of the sea would be common international waters, regulated by an international body constituted of the neighbouring states, whose decisions should be unanimous. Moreover there would be international precedent for granting the access to international waters through the Russian Volga and its canals to the Black sea to foreign vessels.

2.1 Drilling a disputed sea

Since 1991, the Caspian Sea is bordered by (clockwise) Kazakhstan on the north and east, Turkmenistan on the east, Iran on the south and Azerbaijan and Russia on the west. The breakup of the Soviet Union created 4 new states, each with a claim to some of the Caspian fields. The question became how to regulate the status of the Caspian sea: both the surface waters, for fishing, and the seabed, for drilling [15, 13]. Initially Russia and Iran demanded adherence to the old treaty and common management of the Caspian resources, but the three newly-formed states refused to consider themselves bound by the treaty. The positions staked out reflected the interests of the states: Azerbaijan, with many offshore oil rigs, favoured the territorial division model based on a roughly north-south median line, along with Kazakhstan and Turkmenistan. Significantly, Russia changed its position to favour territorial division in 2000, after it appeared that the promising North Kashagan oil field would be in its sector. As territorial division seemed

all but inevitable, Iran requested that the sea be divided into 5 equal shares, a claim disproportionate to its 15 % length of coastline, and aimed at hydrocarbon fields in the sectors claimed by Azerbaijan and Turkmenistan. The area disputed between Iran and Azerbaijan has led to armed confrontations in the Caspian, with Iranian gunships firing at Azeri prospection ships in 2001 [34].

Bilateral and multilateral agreement on dividing lines have not always been successful or final (for instance the bilateral Kazakh-Russian agreement of 1998 was put into doubt by the Russian parliament in 1999). A trilateral agreement was reached in May 2003 by Russia, Kazakhstan and Azerbaijan. Iran has made it known, however, that it does not consider these agreements legitimate or binding, since they did not find favour with all five parties. The most recent attempt at a comprehensive Caspian solution failed in early 2005, leaving the planned exploitation of some oil fields in regulatory limbo [20]. The most significant of these may be the Kyapa or Serdar oil field, as it is known in Turkmen and Azeri respectively, thought to hold between 150 and 200 million tons of oil. Turkmenistan has expressed its dissatisfaction with the median line proposed by Azerbaijan that would give Kyapa/Serdar to Baku [20].

It is worth pointing out that the disputed underwater areas concerning the East Caspian states are not between Kazakhstan and Turkmenistan, where the border provides a demarcation line both seem to agree on, but with the other neighbouring states. For the present, Kazakhstan seems to have settled its undersea claim (the trilateral agreement of May 2003) with Russia and Azerbaijan, but Turkmenistan is disputing significant underwater oil and gas fields with Azerbaijan and Iran respectively.

2.2 Divided depths, shared surface: a Russian proposal

The issue of underwater hydrocarbon exploitation in the Caspian has been kept separate from the issue of fishing access. Russia has proposed that, whereas the seabed should be divided into national sectors, the surface waters outside narrow coastal zones be considered common fishing areas. The joint regulation of the fishing industry that this proposal requires may not be a simple matter. Moreover the issue of the access of foreign vessels to the Volga and on to the Black Sea through Russia remains unclear.

STURGEON SECTION HERE Framework Convention for the Protection of the Marine Environment of the Caspian Sea Caspian Environmental Programme

3 Kazakh oil, Turkmen gas: the new “great game” in the East Caspian

The east Caspian hydrocarbon deposits come with many questions. What are the reserves, proven and plausible? How much will it cost to extract them? Where can they

then be sold, how will they be transported? What are the environmental and human impacts of extraction and transport? Whom will the wealth benefit? How does the hydrocarbon market shift the political situation in Kazakhstan and Turkmenistan? What is the potential for conflict around hydrocarbon control?

Not surprisingly, the answers to these questions often depend on the geopolitical eye of the beholder.

3.1 Hydrocarbon hype: estimating the reserves

3.1.1 Oil, proven and possible

Oil in the Caspian region is divided mainly between the Azerbaijani, Russian and Kazakh sectors. Russia and Kazakhstan have other large oil producing regions. However the Caspian sector had not seen much prospection. In the discussion that follows, it is important to distinguish “proven” reserves (estimated by geological and engineering prospection in known reservoirs) and “potential” or “possible” reserves (everything else, including yet undiscovered reservoirs). A further caveat: none of the reported reserve quantities, proven or possible worldwide, are immune from manipulation for political or economic purposes. No independent verification is done and the reported reserves are endemically inflated to encourage confidence, investment, and further prospection. The uncertainty in the reserves of hydrocarbons carries great risks, both of economic precarity and security instability, in a global economic system dependent on fossil fuels.

Much of the excitement around the Caspian region potential oil reserves was based on United States Department of Energy estimates which were publicized by the State Department. The 1997 report [30] put the “possible” reserves of recoverable oil at 163 billions of barrels (compared to only a tenth of that as “proven” oil reserves, according to the same report). Such bounty would have put the Caspian region in the same league as the Persian Gulf countries (Saudi Arabia, for instance, boasts reserves around 260 billions of barrels). Indeed, the US State Department 1997 “Caspian Region Energy Development” report [30] states

With potential reserves of as much as 200 billion barrels of oil, the Caspian region could become the most important new player in world oil markets over the next decade. The United States supports the development of secure, prosperous, and independent energy-exporting states at peace with each other and their neighbors in the region. [...]

As a consumer nation, the United States is interested in enhancing and diversifying global energy supplies. It is the Clinton Administration’s policy to promote rapid development of Caspian energy resources through multiple pipelines and diversified infrastructure networks to reinforce Western energy

security, and provide regional consumers alternatives to Iranian energy. It is our judgment that the scale of Caspian basin energy resources not only justifies - but will demand - multiple transportation options for moving production out into world markets.

The petroleum industry's estimate of the Caspian region's reserves was not as optimistic, and considering the United States Department of State figures to be overestimates of an order of magnitude. Discrepancies between the United States government figures and the oil industry's were widely commented [18]. Since then, however, the estimates of the US government Energy Information Administration (EIA) and the petroleum industry have come closer together - on the high side. Between 2000 and 2004, the proven Kazakh oil reserves jumped a factor of five, from 8 to 40 billion barrels in the industry mainstay British Petroleum "Statistical Review of World Energy" [2, 6]. In comparison, the 2005 United States Energy Information Administration "Caspian Sea Country Analysis Brief" [10] estimates the Caspian region's proven oil reserves to be between 17 and 40 billions of barrels, with "possible" oil reserves at 186 billions of barrels. In 2002 industry website Oil and Gas International claimed that the Caspian region was already surpassing the North Sea, and could rival the Persian Gulf by 2020 [3].

If the Caspian Sea should become a rival of the Persian Gulf, the region would indeed become the new geopolitical "great game", with immense repercussions on environmental issues (regional pollution, global climate change) and security.

3.1.2 Natural gas

The natural gas riches of the Caspian area are divided mainly between Kazakhstan and Turkmenistan with 3 and 2.9 trillion cubic meters of proven reserves respectively in 2004, according to the British Petroleum "Statistical Review of World Energy" of 2005. Azerbaijan has a little less than half of this with 1.37 proven trillion cubic meters. However other Caspian region countries have large natural gas reserves outside the Caspian area. In particular the Russian federation, with 48 tcm has 27 % of the world's known reserves, and Iran, with 27.5 tcm has 15 %. Thus the East Caspian countries can be seen as competitors of Russia, Iran, Azerbaijan or even Uzbekistan when they attempt to export their natural gas to other countries in the area, such as Georgia, Ukraine or China. These regional considerations have implications for the layout of natural gas pipelines.

Kazakhstan was an importer of natural gas until 2004. Production has been increasing every year. Kazakh natural gas is present in "associated" oil-gas deposits. The relative advantages of oil (market price, storage, transportation) led to the practice of burning the extracted gas, or "flaring". Flaring is a wasteful and polluting practice. The Kazakh government ordered all extraction operations to avoid flaring in May 2005. Some extraction operations are reinjecting the gas into the deposit field to pressurize the oil, other

are reducing their oil extraction or putting it on hold [11].

3.2 Transportation and markets

The East Caspian hydrocarbon production requires lengthy and expensive land transportation to reach the closest markets or open sea harbors. Many different oil and gas consortiums, along with various national governments, have proposed, planned and built pipelines, vying to transport the Caspian oil and gas to destinations of their strategic convenience. The trajectory, as well as the destination, is of crucial importance. The country of transit controls the passage of the gas or oil and levies lucrative fees on it.

The Caspian countries have a strategic advantage in a diversity of export options for their hydrocarbon industry. The pipeline transit countries have an advantage in being chosen for transportation: the pipeline is a lucrative investment and provides them with strategic leverage with their neighbors and with the consuming countries. Pipelines may be an asset in conflict prevention, since countries linked by pipelines have a strategic advantage in maintaining stability [16]. But pipelines, as well as their endpoints, ports and refineries, are also strategic targets and security risks.

Avoiding conflict in the East Caspian is probably best served by a multiplicity of actors and transportation routes whose interests balance out. This is the case, currently, with consortia of western and Russian companies working together with Caspian governments on pipeline and exploitation projects. However, the social and environmental impact of intense exploitation and the emerging web of pipelines should not be neglected. These impacts can themselves generate resentment and rebellion if they are not substantively addressed through impartial and transparent mechanisms based on human and environmental rights.

3.2.1 Baku-T'bilisi-Ceyhan: 1700 kilometers west

The interests of the United States in the East Caspian are to move the oil and gas west, bypassing both Russia and Iran. This would require a Caspian sea crossing, by ship or costly underwater pipeline. The land transport favored route is from Baku in Azerbaijan, northwest to T'bilisi in Georgia and then southwest to the port of Ceyhan in Turkey. This is known as the BTC pipeline. It avoids Russia and the Black Sea to the north and Iran and Armenia to the south. This pipeline is a joint project between the United States, Turkey, Georgia and Azerbaijan. The pipeline will transport Azerbaijani and potentially Kazakh oil. A consortium led by British Petroleum is in charge of pipeline construction. The construction of BTC is completed, and the pipeline was inaugurated in May 2005 [33]. The throughput is expected to reach 500,000 barrels per day (bbl/d) by the end of 2006 [10]. The throughput necessary to recover costs and economically justify the pipeline has been estimated to be the double of this rate [16]. The BTC pipeline overcame many

political, economic and engineering difficulties, but it also faces challenges due to human rights, archeological preservation and environmental concerns [5, 4, 14].

A variant of the BTC pipeline is the Baku-T'bilisi-Supsa pipeline, to the Georgian port of Supsa on the Black Sea. This segment exists was developed by BP and is in use. Both BTC and Baku-Supsa are competitors of the existing Baku-Novorossiysk pipeline (Novorossiysk is Russian port on the Black Sea). The Baku-Novorossiysk line traverses Chechnya and has been interrupted since the Russian-Chechen conflict started in 1999, with a rail detour of the warzone. This is a clear example that in the case of civil war, a pipeline may become a liability and a target, rather than a rallying point for stability as a common interest.

The Azerbaijan International Operating Company (AIOC, a BP-led consortium) has made it clear that it wishes to cease using the Baku-Novorossiysk line, to avoid Russian tariffs and mixing with other grades of Russian oil [33].

3.2.2 Caspian Pipeline Consortium: northwest through Russia, to the Black Sea

The 1,600 kilometer Caspian Pipeline Consortium (CPC) connects the north-east Caspian sector, the oil rich Kazakh and Russian fields, from Tengiz and Atyrau in Kazakhstan to the Russian port of Novorossiysk on the Black Sea. It was officially inaugurated in November 2001. This route permits Kazakh oil to reach lucrative western markets through the Black Sea and the Bosphorus Straights to the Medditerrean. However, the ensuing load on the Bosphorus straights traffic carries significant environmental risks for Turkey. Turkey advocates pipeline land alternatives to the Bosphorus straight passage.

3.2.3 Russia's giant Gazprom

Russia's Gazprom, the largest natural gas company in the world, has been seeking control of the western gas markets and pipelines, including its immediate neighbors Georgia and Ukraine [28]. Both of these former Soviet Union republics have been resisting Gazprom's offers of buying their pipeline networks in exchange for cheaper gas prices. The doubling of gas prices to both Georgia and Ukraine in January 2006 is seen partly as a pressuring tactic. Gazprom's expensive Bluestream underwater gas line (operational since 2002), connecting Russia directly to Turkey without transiting through Ukraine, as well as the planned Baltic underwater line to Germany, would allow Russia to cut Ukraine, the Caucasus or the Baltic states off and still supply the Western European markets. The virulent standoffs of the winter of 2005-2006 between Russia's Gazprom and Ukraine and Georgia (including Georgia's recent accusations of Russian pipeline sabotage [9]) demonstrate the security implications of Caspian gas supply and distribution for the entire Eurasian region.

Gazprom's ownership of pipelines looms large in the East Caspian. Gazprom owns the gas pipeline infrastructure of both Kazakhstan and Turkmenistan, and thus controls their gas exports and deals with other countries [35]. This issue is of special importance to Turkmenistan, since the bulk of its hydrocarbon exports is natural gas. Historically, Russia has imported cheap gas from the East Caspian, especially Turkmenistan, for domestic use, and exported its own gas production to lucrative western markets. Thus finding Gazprom export alternatives is in the interest of both Kazakhstan and Turkmenistan.

3.2.4 South to Iran

Iran is the "natural" route for hydrocarbon transit from the Caspian basin. Transit through Iran would be the shortest trajectory to open sea, in this case the Persian Gulf. However, despite Iran's support of such a transit pipeline, the United States "Iran and Libya Sanctions Act" prevents major foreign investment for such a project. The shorter Korpezhe-Kurt Kui pipeline linking Turkmenistan and Iran was completed in 1997, the first to break the Gazprom monopoly in the region [10]. This allows Turkmen-Iran gas swap deals, where Turkmenistan supplies Iran, and Iran in turn exports from its southern fields to the Persian Gulf.

Another pipeline circling the southern Caspian through Iran to western markets is under consideration.

3.2.5 Southeast to Afghanistan and Pakistan

The two major routes for Turkmen gas, north to Russia and south to Iran, are both to major gas producing countries, natural competitors to Turkmenistan in the international market. Turkmenistan has promoted the idea of a pipeline from Turkmenistan's Caspian shores, southeast through Afghanistan to markets in Pakistan and India [10]. The ongoing conflict in Afghanistan is an obstacle to this Trans-Afghan or Turkmenistan-Afghanistan-Pakistan (TAP) pipeline. The Asian Development Bank commissioned a feasibility study for such a pipeline in 2005.

3.2.6 A large market, far away: China to the east

In late 2005, Kazakhstan's National Petroleum & Natural Gas Co. and China National Petroleum Corp reported the completion of the 950 kilometer pipeline linking Atasu in western Kazakhstan to Alashanku in eastern China. This segment is the second in a pipeline that will eventually reach from China to Atyrau, hub of the Caspian oil region of Kazakhstan. China's enormous market is a destination for both Russian and Central Asian hydrocarbons.

The Kazakhstan-China pipeline has considerable environmental implications, especially for the transborder Irgiz river [21]. Kazakhstan recently joined the UNECE Con-

vention on the Protection and Use of Transboundary Watercourses and International Lakes [8] as well as the the Ramsar convention on wetlands [7].

4 Fifteen years of transition in the East Caspian

At the breakup of the USSR in 1991, the Central Asian republics faced a difficult economic and political transition. Economically, they emerged with industries dependent on planned soviet dependence on Moscow. Politically, they needed to defend their national integrity, join international institutions and maintain domestic stability.

The economies of both Kazakhstan and Turkmenistan are for the most part dependent on export of natural ressources. In particular, Kazakhstan, beyond its immense hydro-carbon ressources, is also endowed with significant mineral deposits: gold, uranium, lead, aluminium, chrome, zinc and others. Both Kazakhstan and Turkmenistan are cotton exporters.

Politically, Kazakhstan and Turkmenistan have diverged considerably. Both are characterized by “strong presidencies”, but their internal and external politics could otherwise not be more different.

4.1 Kazakhstan

Kazakhstan is the largest country of the former Soviet Union after Russia. Directly south of Russia’s long border, Kazakhstan’s population has a large Russian minority besides the Kazakh majority. Kazakhstan’s Kazakh population is divided among three major “hordes”: the Great, Middle and Lesser hordes, corresponding to southeastern, center north, and western regions. In 2000, the capital was displaced from western hub Almaty to the small center-north steppe town of Astana, in order to bring the political power closer to the Russian minority regions.

The soviet-era first secretary of the Kazakh communist party, Nursultan Nazarbayev, a member of the Great Horde, is the uncontested president. His nepotism and control of politically and economically important sectors (such as the media) are notorious. Crucial administrative positions are held by direct family members.

His policies have been to maintain cooperation with Russia, with an eye on fostering internal stability vis-a-vis the large Russian minority. This minority has moreover dwindled significantly since independence through emigration to Russia, leaving a clear Kazakh majority (58% Kazakh, 27% Russian, 15% other minorities: Ukrainian, German, Uzbek, Uygur). Kazakh sovereignty has included such moves as taking control of the soviet-era military bases [32].

Internationally, Kazakhstan has chosen not to align itself with one or the other of the great geopolitical powers (Russia, China, United States), but instead to participate in all

strategic alliances[24]. This position allows Kazakhstan to maintain relations with all its partners, allowing none a dominant role. This position to that of neighboring Uzbekistan (at least until recently), but differs markedly from that of Turkmenistan. Kazakhstan is a member state of a dizzying myriad of international organisations:

- United Nations since 1992;
- Organization for Security and Co-operation in Europe (OSCE) since 1992;
- Commonwealth of Independent States (CIS, ex-USSR) since its foundation in 1991;
- Economic Cooperation Organisation (founded by Iran, Pakistan and Turkey) since 1992;
- Organization of the Islamic Conference since 1995;
- NATO's Euro-Atlantic Partnership Council (EACP) Partnership for Peace (PfP) (Western Europe, the United States and Canada) since 1994;
- Shanghai Cooperation Organization (with China and Russia) since its "Shanghai Five" founding in 1996;
- Conference on Interaction and Confidence-Building Measures in Asia (CICA) (initiative of Nazarbayev since 1992);
- Central Asia Cooperation Organisation (CACO) since 1991;
- Eurasian Economic Community (EEC) since its founding in 2001.

The last two organisations, the CACO and EEC have practically overlapping membership (Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan and Russia, with Belarus belonging only to the EEC)and purposes, and a merger of the two organisations was agreed in October 2005 [12]. The Single Economic Space treaty process also involves some CACO and EEC countries.

Most of these organisations represent specific geopolitic interests: Russia, China, Europe and/or United States, Iran and Turkey. Kazakhstan, along with other Central Asian countries, makes use of the courtship of these big players to gain advantages and evade pressure.

In particular, China is emerging as a major economic partner of Kazakhstan, a potential counterpoint point to Russian or Western influences. China's lasting interest in Kazakhstan is evident in its commitment to the completion of the pipeline connecting the two countries.

In terms of international financial institutions, Kazakhstan has active International Monetary Fund, World Bank and Asian Development Bank membership, and is acceding to WTO membership.

President Nazarbayev's economic policies have made Kazakhstan one of the more open countries of Central Asia. The energy sector is largely privatized, along with agriculture and natural resource exploitation. The government (and Nazarbayev's clan) are partners of lucrative international economic ventures. The oil and gas sector accounted for more than 16% of the GDP and 63% of exports 2004, according to the World Bank [22].

Such a reliance on oil makes Kazakhstan a potential victim of "dutch disease" [17]. As the Kazakh oil exports increase, the Kazakh currency Tenge becomes stronger, making other export sectors of the economy less competitive. Thus the very strength of the oil export sector would tend to weaken the other export sectors, rendering the whole economy undiversified and vulnerable to oil price changes. President Nazarbayev has been presenting the hydrocarbon fuel riches as the way to higher living standards for of Kazakhstan. Such a premise puts Kazakhstan risk of revolution, according to Marc Katz (2006) [23]. Under this scenario, if the relatively (by Central Asian standards) prosperous Kazakh population found its living standards abruptly reduced through oil price instability, the thwarted expectations of the population might cause enough resentment to overthrow the regime.

Another risk of reliance on oil revenues lies in undermining state structure, fostering corruption and private accumulation rather than distribution through effective state institutions and public infrastructure. Oil revenues in fact allow governments to avoid relying on taxation, one of the main institutions of a stable state. The government role becomes managing oil revenues rather than responding to the demands of the population.

Political regimes strong presidencies evolution

economic situation regional inequalities minorities dependence on Russian infrastructure, USSR industrial whole privatising Kohlkose drug trade

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