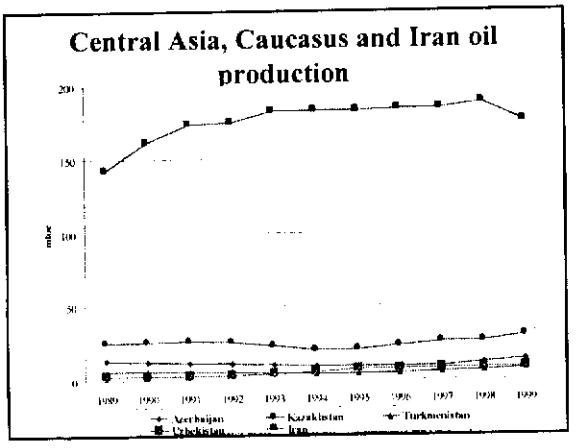
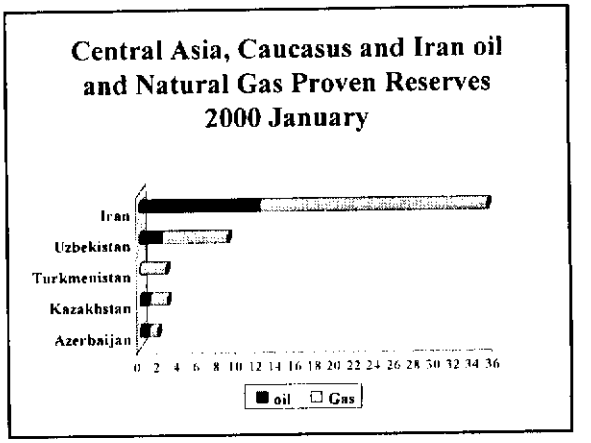
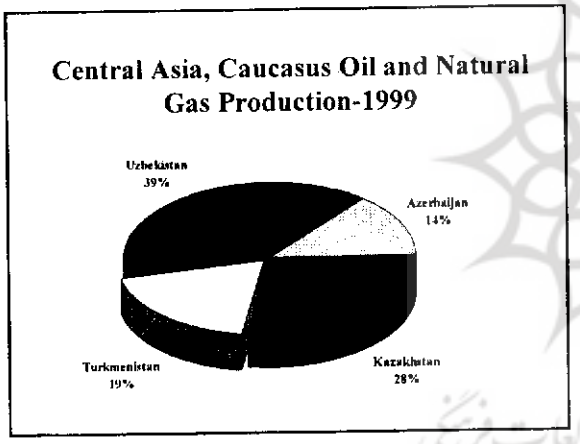
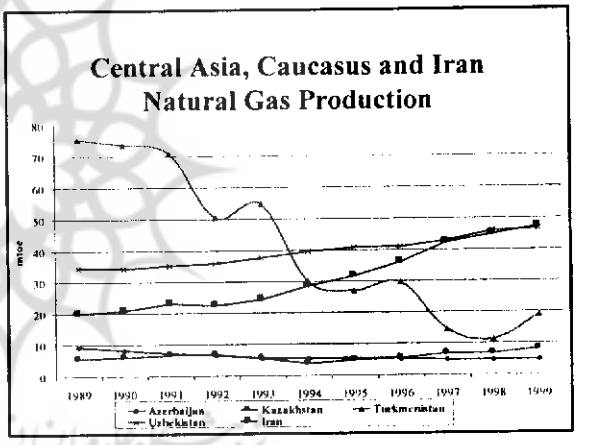
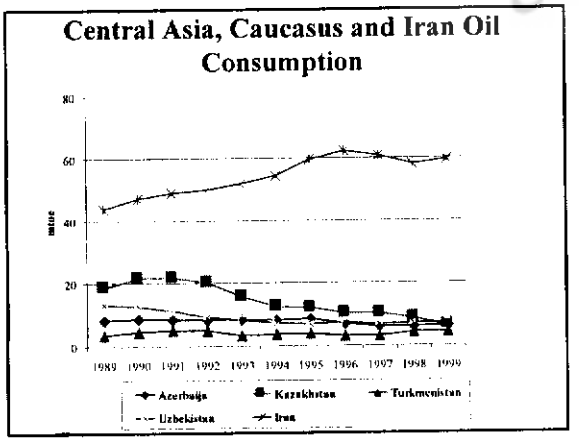
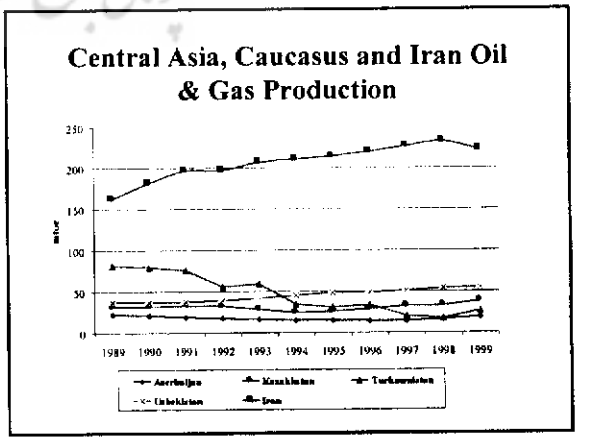




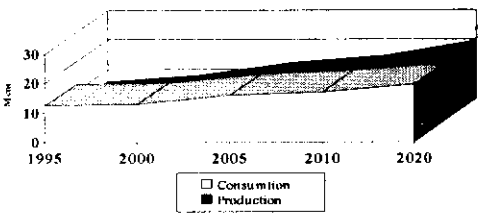




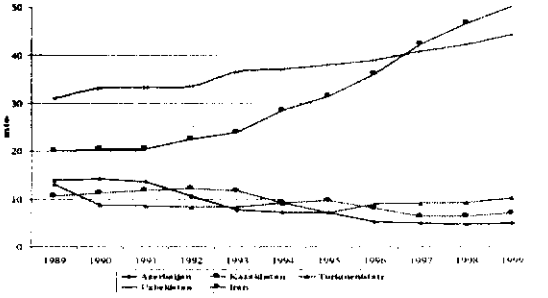




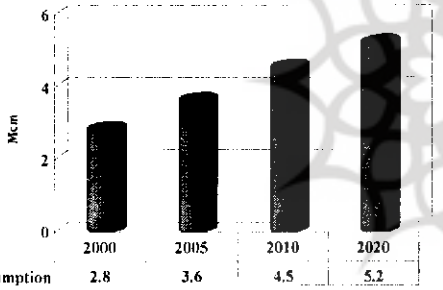
Prediction of Natural Gas Demand and Supply in Kazakhstan (2000- 2020)



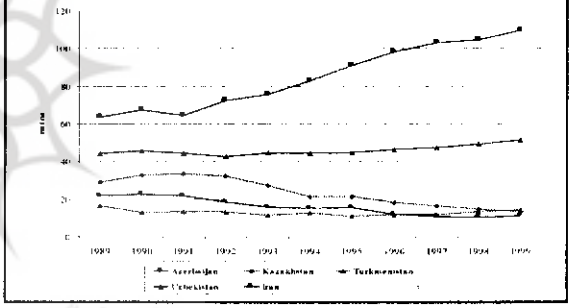
Central Asia, Caucasus and Iran Gas Consumption



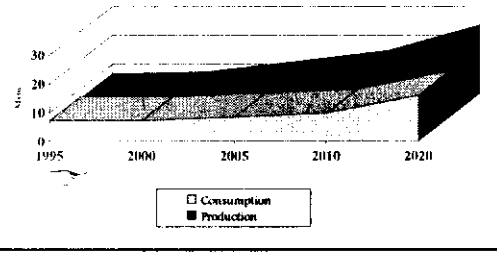
Prediction of Natural Gas Demand in Armenia (2000- 2020)



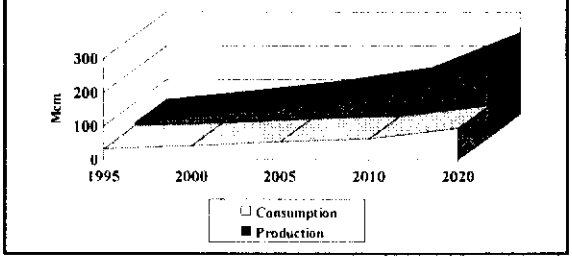
Consumption of Oil & Gas in Central Asia, Caucasus and Iran



Prediction of Natural Gas Demand and Supply in Azerbaijan (2000- 2020)



Prediction of Oil Demand and Supply in Central Asia, Caucasus



Experts of the National Iranian Oil Company (NIOC) undertook the construction of a 140-kilometre pipeline inside the Turkmen territory to the Iranian border and the construction of dehydration installations. Aided by its specialised experts and technology, Iran is capable of serious engagement in the gas swap deals of Central Asia and the Caucasus in the near future.

The Islamic republic now has an overall natural gas transfer network stretching from the south to the north and from the east to the west. Meanwhile, the gas imported from the northern countries can be used for domestic consumption in those areas, an issue which will prevent the transfer of gas from the southern regions to the north.

Under the Third Five-Year Economic Development Plan, the northern and northeastern areas will consume 43 per cent of the country's gas. Therefore, gas imports from Turkmenistan can meet some part of the gas needs of the northern and north eastern areas, ease concentration of gas in the north-south corridor, and facilitate feeding of western and north-western areas from the national pipelines.

Iran can capitalise on its facilities for the transit or swap of the Central Asian and Caucasian gas. Iran's activities in either of the abovementioned fields will be largely affected by the mutual economic, social and political relations of the engaged countries, gas transfer potentials of the third-party country (Iran), and the natural gas needs of the consumer markets.

The Islamic Republic of Iran is hopeful to reap the most profits from the exchange of energy especially gas with its neighbouring countries through peaceful economic, social and cultural relations.

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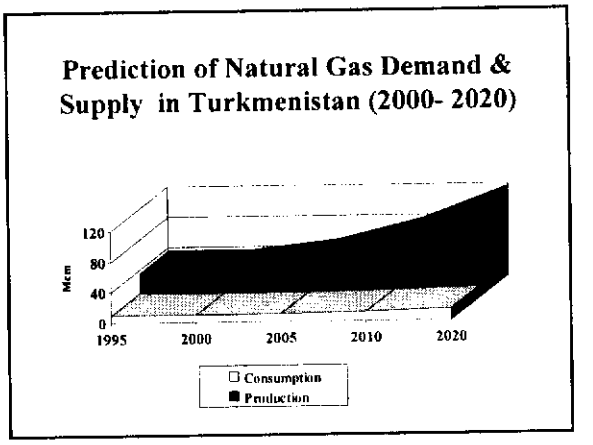

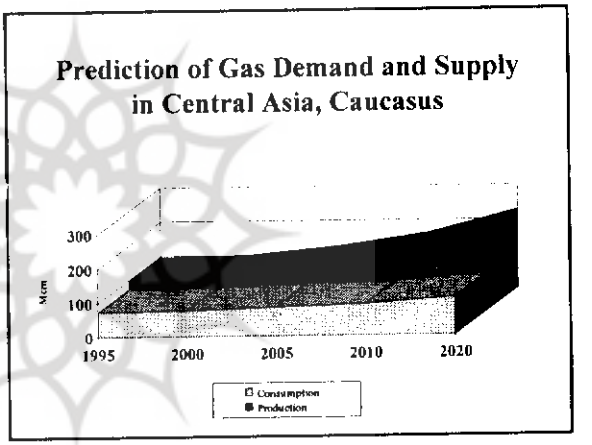

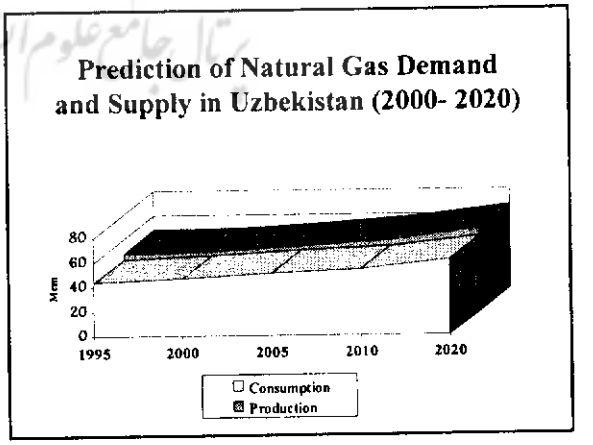

the region's gas output.

Kazakhstan will have to import gas over the next two decades to meet its domestic gas demand. Kazakhstan's gas imports will continue until 2020, when it will raise its gas production to put a halt to imports.

Roundup and Proposal

The Central Asian and Caucasian countries hold 3.3 per cent of the global oil and gas reserves including five per cent of the oil and 1.6 per cent of the gas deposits. Yet, they do not have much energy storage capacity in comparison with their neighbouring countries, mainly because they are surrounded by Iran and Russia-two major owners of oil and gas. According to the latest statistics by the IEA, the Caspian Sea's oil reserves hover around 15-40 billion cubic metres and natural gas reserves at 6.7-9.2 trillion cubic metres.

Thanks to their geopolitical situation and location en route the energy transit routes to the consumer markets, the Central Asian and Caucasian countries have a sensitive situation that has created special conditions for the regional countries including Iran.

On the other hand, their weak economies and bid for economic development with reliance on the world's powerful countries especially the US and some European countries have affected the policies and behaviours of the energy suppliers in the international energy markets especially in choosing the third-party countries located en route the transfer pipelines.

In order to achieve economic growth and discover new energy reserves, such countries need to make new investments in their energy sector.

According to a survey by the IEA, the four major countries of the region-Kazakhstan, Uzbekistan, Azerbaijan and Turkmenistan-except Turkmenistan are potentially capable of becoming the crude oil exporters. Turkmenistan's oil production and consumption will be level. Meanwhile, the four abovementioned countries except Kazakhstan are capable of supplying gas to the international markets. Among all, Turkmenistan will be the largest supplier of gas to the global markets.

Turkey has an outstanding role in the gas export strategy of the Central Asian and Caucasian countries

Taking into account the existing forecasts, the Central Asia and the Caucasus will have to seek out safe export routes and big clients for their energy exports. The gas projects are principally capital-oriented, and often impossible to be modified for other purposes. Thus, it is crucial to choose proper customers, transfer routes, and politically stable and safe third-party partner countries.

At the same time, it is difficult to proceed with the prescriptive recommendations of some of the world's industrialised countries that play a key role in the economic development of the energy-rich countries. As a big neighbour of Central Asia and the Caucasus, the Islamic Republic of Iran has an instrumental role in the international energy transactions. Chief among the geographical and economic characteristics of Iran are as follows:

- High potential of energy storage especially natural gas
- Neighbourhood with the Central Asian and Caucasian countries that have high potentials in the storage of exportable energy
- High capacity of energy consumption in different parts of the country especially the areas bordering Central Asia and the Caucasus, and the possibility of conducting energy swaps
- Strong economic, social and political relations with the regional countries
- Easy access to the international waters and facilities of supplying oil and gas to the international markets.
- Massive gas transfer facilities from the east to the west and from the north to the south of the country, for the shipment of gas consignments from the production centres to the consumer markets and export destinations
- High expertise and technology for the construction of new oil and gas transfer systems, and co-operation with the regional countries for the expansion of the system to the customer countries

Apart from the abovementioned factors, the reluctance of the Central Asian and Caucasian countries in using Russia's gas transfer capacity has largely helped Iran to implement its energy objectives. Meanwhile, Iran can use its massive transport facilities to transfer energy of the Central Asian and Caucasian countries to the consumer centres.

The economic gains of the initiative are a follows:

- Reap foreign exchange income in transit fees
- Reduce costs of gas supply to the domestic consumers
- Use idle capacity of the gas pipelines
- Earn income through the participation of Iranian companies in gas transfer projects

Under the deal, Iran is to lay a 110-kilometre 24-inch pipeline from Basmanj, near Tabriz, to Megri on the Armenian border, and construct the relevant pressure boosting stations at a cost of 42 million dollars. The Armenian side has undertaken to reconstruct and renovate 79 kilometres of its existing pipelines and build a 237-kilometre pipeline with diameters of up to 28 inches at a cost of 78 million dollars.

The conclusion of the contract and the export of Iranian gas to Armenia will both strengthen good-neighbourly relations and leave positive impacts on the energy market. The major achievements of the gas deal for Armenia are as follows:

- Increase security of supply
- Expand energy transfer networks
- Replace gas for other imported energy carriers
- Reduce environmental pollution
- Reduce vulnerability of Armenia's economy and diversify supply resources

Gains of the gas deal for the Iranian side are as follows:

- Broaden natural gas transfer networks
- Implement the south-north natural gas transfer deal
- Earn foreign exchange revenues
- Transfer technology especially for the creation of gas transfer systems
- Create a suitable ground of natural gas supply (within direct exports, transit, swap or other shapes) to the Central Asian and Caucasian states
- Raise the general trust of the regional and world countries especially in energy transactions

Thus, the striking characteristics of the project are the reduced vulnerability of the country against the postures of the international circles and Western governments, and Armenia's strategic location en route the energy transit path to the European markets. Last year, the deputy chief of Armenia's Gas Institute suggested transferring 30 billion cubic metres of Turkmenistan's gas to Turkey via Armenia. The plan envisioned the transfer of Turkmen gas to Turkey via Azerbaijan and Armenia on a 1,850-kilometres pipeline at a cost of 2.9 billion dollars.

In the 1989-99 period, Iran's annual oil and gas consumption increased by an average 3.2 per cent and 9.6 per cent respectively

Analysts maintain the abovementioned route is more economical than the 2,060-kilometre Turkmenistan-Azerbaijan-Georgia-Turkey alternative, which will cost 3.4 billion dollars. Despite the insistence of some of the regional countries for the transfer of their energy resources via the Caspian Sea to the international markets, economic experts see the trans-Iranian route as the most economical and safest alternative for the transfer of Central Asian and Caucasian energies to the international markets. They argue Iran boasts mammoth facilities and easy access to the international waters.

Prediction of Oil and Gas Demand and Supply in Central Asia and Caucasus

Taking into account the economic, technological and political considerations, the IEA has surveyed the demand and supply of oil and gas in Central Asia and the Caucasus from two aspects: up and down. As the upper scenario is founded on bullish forecasts in the supply and demand, there are high stakes for its failure.

Therefore, the present article has attempted to address the lower scenario, with an eye on the gas sector.

Estimates indicate the four major countries of the region will turn into global oil exporters, mainly because of oversupply in their domestic markets. Their oil exports are expected to grow by 8.6 per cent by average annually to reach 148 million tonnes in 2020 from 28.6 million in 2000.

Among all, Kazakhstan and Azerbaijan will be the largest producers and exporters of oil within the next two decades. In return, Turkmenistan will use its oil production only for domestic consumption. So, it will not have any say in the international crude oil transactions.

A survey of natural gas demand and supply will indicate that the natural gas exports of the region will constantly grow by an average annual rate of 7.8 per cent over the next two decades, bumping 116 billion cubic metres in 2020. In the meantime, Turkmenistan will be the largest gas exporter of Central Asia and the Caucasus, holding 87.6 per cent of the total gas exports of the region.

Meanwhile, Uzbekistan will export 6.8 per cent of the region's gas, posing itself as the second largest gas supplier of the region. Uzbekistan's gas exports will almost double over the next two decades, reaching 6.3 billion cubic metres in 2020 against 3.5 billion in 2000.

Azerbaijan will be the third major regional gas producer. Azerbaijan's gas exports will reach the consumer markets as of mid-2010. The Azerbaijan republic will probably churn out 5.6 per cent of

aspects including the structure of gas industry, transfer system, economic gains and political considerations.

Azeri geologists discovered the Shah Deniz field for the first time in 1954. The 76-square-kilometre offshore field lies in the Caspian Sea, 70 kilometres southeast of Baku. According to the statistics, the field contains 700 billion cubic metres of natural gas, 200 billion of which will be used to pay for the project expenses and exploration costs. Around 65-70 per cent of the remaining 500 billion cubic metres will go to Socar and the rest to other consortium members.

Turkmenistan is an active country in the international gas market. Iran is now the only trading partner of Turkmenistan in the international markets. Yet, it has launched long-term plans of gas exports to Turkey, Japan, India, Pakistan and China, an issue which entails the crossing of gas pipeline from many third-party countries.

Studies indicate the export of Central Asian and Caucasian gas has high economic gains. According to results of a survey conducted by the IEA, the transfer fee of every 1,000 cubic metres of Turkmenistan's seven billion cubic metres of natural gas to Turkey will cost 60 dollars, as compared with 127 dollars in transfer fee for coal and 198 dollars for fuel oil, currently consumed at the power stations.

Thus, should the Azeri government create the necessary facilities for the supply of gas to Turkey, its exports will have a far less cost that Turkmenistan's exports to Turkey. Therefore, Azerbaijan will most likely pose itself as a major rival of Turkmenistan in the Turkish market.

Turkmenistan and its companies are widely interested in the Indian and Pakistani markets. So far, they have conducted massive efforts for the construction of a gas transfer pipeline to Pakistan via Afghanistan. According to forecasts, Pakistan's gas demand will grow to 36 billion cubic metres in 2005 and 48 billion in 2010, from 27 billion in 2000. Taking into account the 27-29 billion cubic metres of gas production capacity in Pakistan, it will have to seek safe suppliers of natural gas for its domestic consumption in the early third millennium.

Uzbekistan is currently the largest natural gas producer of Central Asia and the Caucasus

A look at the Indian market will confirm that India too will have to import gas to meet its domestic demands. According to studies by the World Bank, gas exports from Central Asia to Pakistan and India are economically justifiable. The transfer costs of a thousand cubic metres of natural gas to India over a 2,500-kilometre gas pipeline will range from 60 to 78 dollars, and over a 3,800-kilometre pipeline from 81 to 109 dollars.

A comparison of the expenses of gas imports with the value of fuel (fuel oil for Pakistan and coal for India) saved through gas consumption will confirm the high gains of gas imports. The replacement value of every 1,000 cubic metres of natural gas with other conventional fuels in Pakistan and India will be around 201 dollars and 120 dollars respectively. (Source: IEA)

Aided by their mammoth reserves of natural gas, Iran and Qatar are two serious rivals for Turkmenistan. Iran's strategic location has made it possible firstly to supply gas to Pakistan directly and secondly to swap Turkmen gas for transfer to Pakistan.

Armenia is another potential gas market in the region. As a neighbour of Armenia, Iran plays a key role in the supply of energy especially natural gas to the Caucasian state. Iran-Armenia economic co-operation began shortly after its independence from the former Soviet Union. Due to its heavy reliance on energy imports (95 per cent), Armenia is attempting to supply its energy needs as a major strategy.

Russia and other republics of the former Soviet Union play a key role in the supply of energy to Armenia, where the natural gas is one of the major energy baskets. Armenia provides its natural gas from three routes:

- Main northern route from Russia
- Azerbaijan-Georgia route
- Stepanakert route

Although Armenia imports its gas currently from the trans-Russian northern route, it is very keen to acquire the Iranian gas, mainly due to its mounting gas demand. According to studies, Armenia's gas demand will reach 5.2 billion cubic metres in 2020, up by 3.1 per cent from 2.8 billion in 2000. Another factor prompting Armenia to seek gas imports from Iran is the reigning limitations of gas imports from Russia and other former Soviet republics.

Iran and Armenia began negotiations in 1992 and finalised a deal in 1995, under which Iran is to export one billion cubic metres of gas to Armenia over the next 15 years. Based on the deal, Iran will have to export gas consignments to Armenia only in eight months of the year, i.e. the warm months. The plan entails the creation of a new natural gas delivery mechanism by Iran and a new gas distribution system by Armenia.

second largest oil and gas consumer of the region. In 1999, Uzbekistan held 16 per cent of the region's oil and gas consumption. As the largest consumer of oil and gas in the region, Uzbekistan posted 2.5 per cent of growth in annual oil and gas consumption in the same year. At the same time, the level of oil and gas burning was on the decline in other regional countries.

In the last decade, the region's oil and gas consumption dropped by an average 2.1 per cent annually from 112 million tonnes equivalent of oil to 91 million.

In the 1989-99 period, Iran's annual oil and gas consumption increased by an average 3.2 per cent and 9.6 per cent respectively. The growth in the natural gas consumption was prompted by the policy of replacing oil and oil products with natural gas for domestic purposes.

According to certain studies, Iran's oil and gas consumption basket posted by average 7.4 per cent of annual growth, rising from 54 million tonnes equivalent of oil to 110 million tonnes.

As the present article attempts to address ways of co-operation with the Central Asian and Caucasian countries in the energy sector particularly gas, we will primarily focus on the natural gas exchanges of the region. The former Soviet republics supplied their natural gas mainly from the neighbouring republics. In recent years, however, Turkmenistan has been the sole supplier of natural gas to the international markets and Iran in the region. In order to implement the deal, a 140-kilometre 40-inch pipeline has been constructed along Iran-Turkmenistan border to Kordkuy.

Turkmenistan began gas exports to Iran in 1997 with an initial gas delivery of 400 million cubic metres. Two years later, Iran's gas imports from Turkmenistan surged to two billion cubic metres. within 1997-99,

Despite severe turmoil in the Central Asian and Caucasian oil markets, their oil output capacity has risen by 2.3 per cent annually in the last decade

Turkmenistan exported a total of 4.3 billion cubic metres of natural gas to Iran.

Iran has had limited gas exports to Azerbaijan in the last decade.

The main factors affecting the growth of international transactions include expansion of export markets, competition among the regional countries, success of the countries in using Russia's gas pipeline, fast construction of new export pipelines and the level of domestic consumption.

There is no specific restriction on the transfer of Central Asian and Caucasian gas to the international markets. It is technologically possible to build a gas transfer pipeline for exports to Europe, India, China and even East Asia. Thus, it is important to use Russia's gas transfer pipeline. Export of LNG is another alternative of expanding trade activities in the region.

The regional countries and their private partners are faced with political and economic constraints in choosing their export strategy. For instance, in many proposed routes, the transit of gas from the third-party countries and regions with certain political problems is inevitable. In some cases, the swap projects cost more than the current projects.

Turkey has an outstanding role in the gas export strategy of the Central Asian and Caucasian countries, because it can play an intermediary role in the transfer of gas consignments to Europe. Therefore, it is a suitable choice for the transfer of Central Asian and Caucasian gas to Europe. Many regional countries have baulked at the idea of exporting gas to Europe via Russia, due to the clash of interests. Meanwhile, Russia is not willing to enter into competition with other suppliers in the lucrative European market. It is noteworthy that Iran will begin gas exports to Turkey as of 2001 under a 22-year deal signed between the two countries.

Turkmenistan and Azerbaijan have often signalled their interest to export gas to Turkey. The formation of Shah Deniz consortium is an attempt to export Azerbaijan's gas to Turkey. The consortium is the third major international consortium, created by Azerbaijan, for oil explorations in the Caspian Sea. The consortium is 25.5 per cent held by BP Amoco, 25.5 per cent by Statoil, 10 per cent by Azerbaijan's state-oil company Socar, 10 per cent by Lukoil (Agip), nine per cent by the Turkish Petroleum, 10 per cent by ELF, and 10 per cent by the Iranian firm OIEC.

The consortium was aimed at early gas exports to Turkey via Shah Deniz. At the first stage, the project is set to export 2-5 billion cubic metres of gas per year.

The Shah Deniz project is scheduled to export five billion cubic metres annually by 2003, 10 billion by 2004 and 16 billion by 2005. The development plan of the field entails total sale and export contracts and timely delivery to buyers.

Iran's position in this project is the third-party route for the transfer of gas taken from Azerbaijan via the gas transfer facilities of the northeast to the Turkish border. The transit and swap of the Azeri gas should be studied from all

located in Azerbaijan, Turkmenistan, Uzbekistan and Kazakhstan, with Turkmenistan and Kazakhstan taking the lion's share by 30 per cent each.

A survey of the world's hydrocarbon resources in the early 2000 indicates that the Central Asia and Caucasus contain 5.1 per cent of the global gas reserves and 1.6 per cent of the oil deposits, i.e., they sit on 3.3 per cent of the global oil and gas reserves. The four major countries of the region boast 15 per cent of the oil and gas reserves of the former Soviet Union-13.1 per cent of gas reserves and 25.6 per cent of oil reserves.

Owning rich oil and gas deposits, Iran is a main rival of the Central Asian and Caucasian countries. The Islamic Republic of Iran sits on 12 per cent of the world's oil and gas reserves including 16 per cent of the total gas reserves and nine per cent of the oil deposits. Iran's energy potential is four times that of the Central Asia and Caucasus.

Iran's strategic neighbourhood with the gas-rich countries of Central Asia such as Turkmenistan, and the gas markets of the region including Turkey and Pakistan, have provided favourable conditions for Iran. Accordingly, the Islamic Iran should heed short-, medium- and long-term plans for international gas deals such as export, import, transit or swap.

Despite severe turmoil in the Central Asian and Caucasian oil markets, their oil output capacity has risen by 2.3 per cent annually in the last decade. Uzbekistan posted the highest growth, raising its oil production capacity to eight million tonnes in 1999 against three million in 1989.

The collapse of the former Soviet Union and the peculiarities of the natural gas exports have drastically diminished gas production in the region. Gas exports dropped by five per cent in the last decade. Turkmenistan posted

the Central Asia and Caucasus contain 5.1 per cent of the global gas reserves and 1.6 per cent of the oil deposits

the largest slump in gas production by 12.8 per cent.

Uzbekistan is currently the largest natural gas producer of Central Asia and the Caucasus. The gas output goes mainly to domestic consumption. As the second largest gas producer of the region, Turkmenistan exported 59 per cent of its production to Uzbekistan in 1999.

The ratio of gas export to production in Torkmenistan has noticeably slipped from 83 per cent in 1989 to 47 per cent in 1999. The collapse of the former Soviet Union and the halt of Turkmenistan's gas exports to the Russian Federation and other neighbouring republics have been the main causes of to the decline.

According to the statistics, Uzbekistan was the leading oil exporter of Central Asia and Caucasus with 39 per cent and Kazakhstan the major gas exporter with 28 per cent in 1999.

The plunge of oil and gas production is because of the 2.2 per cent slump in the natural gas production, which was most visible in Turkmenistan with 11 per cent. In the interim, Uzbekistan and Kazakhstan maintained their positive growth rate in the recent decade mainly because they were less affected by the political developments of the former Soviet Union.

A review of oil and gas production in Iran will indicate that gas output growth was four times the growth of annual oil production. From 1989-99, the average annual growth rate of oil and gas production hovered around 2.1 per cent and nine per cent respectively. The policy of encouraging domestic natural gas consumption was the main incentive for the production of natural gas.

Iran's oil and gas production basket rose on average by 3.2 per cent annually, mainly due to a hike in natural gas production.

Oil and natural gas consumption has drastically diminished in the four major Central Asian and Caucasian countries in the last decade. Chief among the factors leading to the slump of energy consumption include unfavourable economic conditions, necessity of raising oil and gas income, and failure in creating a proper capacity of energy attraction in the economic sectors due to economic slowdown.

In the last decade, oil and gas consumption dropped 5.6 per cent annually in these countries. Except Turkmenistan, the other main countries posted over 2.5 per cent decline in the annual crude oil consumption. Kazakhstan registered the highest decline by 10.1 per cent.

The reduction of natural gas consumption was comparably much lower than that of oil. In the meantime, natural gas consumption slipped by an average 0.3 per cent annually, with the highest decline reported in Azerbaijan at 10 per cent. In return, Uzbekistan's gas consumption increased by 3.6 per cent annually in the same period.

A review of the region's oil and gas consumption basket will indicate that Uzbekistan held over 50 per cent of the region's consumption. Growing consummation of natural gas was the main factor in the plunge of oil consumption. Turkmenistan is the

Prospects of Gas Co-operation With Central Asia and Caucasus

The text of a speech by Asghar Soheilipour, Director of Joint Planning of the National Iranian Gas Company, presented at the 14th seasonal gathering of the Iran Energy Committee on the 28th August 2000 at the Energy Ministry.

The five Central Asian republics of Uzbekistan, Tajikistan, Turkmenistan, Kyrgyzstan and Kazakhstan have a combined territory of 3,994,400 square kilometres and a population of 50 million people. Kazakhstan is the largest of the Central Asian republics. Its size is twice the vastness of the four other countries. Kazakhstan is flanked by Iran, China, Mongolia, Russia, India and Afghanistan. It stretches along the southern borders of the former Soviet Union.

Analysts attach great significance to the region, mainly because of its strategic location at the crossing point of Asia and Europe, proximity with such powerful countries as China, India, Russia, Iran and Pakistan, rich hydrocarbon resources and other minerals such as gold, copper, uranium and heavy metals, diverse agricultural produce, and a growing population. Some have even described the region as the "heart of Asia."

The Caucasus is a mountainous region, located southwest of Russia. The region is bounded on the west by the Black Sea and the Sea of Azov, on the east by the Caspian Sea, on the north coasts of the Kuma-Manych, on the south by Iran, and on the southwest by Turkey.

The Caucasus region has an area of 440 thousand square kilometres, around 186.1 thousand square kilometres of which comprises Azerbaijan, Armenia and Georgia. The southern Caucasus region especially Azerbaijan and Armenia have special significance to Iran.

A review of the economic realities of the Central Asian and Caucasian countries will indicate that they are mostly suffering from economic crises. Their woes are aggravated by the inappropriate climatic conditions, unfavourable conditions left over from the Soviet-era communist rule, and the economic consequences of the disintegration of the former Soviet Union.

Results of a survey by a German mission indicate that in the aftermath of the collapse of the Soviet Union, Tajikistan, Kyrgyzstan, Turkmenistan and Uzbekistan had the weakest economies among the Soviet republics. The Caucasian countries have a similar situation.

Such countries posted negative GDPs in the 1990-98 period, with the striking plunge registered by Georgia (-12.8 per cent), traced by Azerbaijan (-11.5 per cent), Tajikistan (-9.8 per cent) and Turkmenistan (-8.7 per cent). In 1998, the Central Asian and Caucasian republics held a meagre 0.2 per cent of the world's GDP.

In recent years, the current accounts balance of the almost all the Central Asian and Caucasian republics have been negative. In 1998, their overall current accounts balance hovered around -3,889 million dollars, with Azerbaijan accounting for 35 per cent of the figure, Kazakhstan 31 per cent, Turkmenistan 24 per cent and Armenia 10 per cent.

Foreign investment accounts for a scant share of the GDP in most Central Asian and Caucasian countries. In Azerbaijan, foreign investments constituted 26 per cent of the GDP in 1998 and 66.5 per cent of the overall investments. In Armenia, foreign investments held 12.2 per cent of the GDP and 64.4 per cent of the overall investments.

In view of these realities, it is impossible for them to keep up with the current process in the long run. So, they will have to draw up special plans for economic and social growth in the region.

Although energy is a strong impulse of economic development among some of these countries, the true pillars of development include capital and manpower. Relying on their oil and gas resources, they have launched a massive bid to supply the energy needs of their economies. Yet, they are hamstrung by weak infrastructures in the supply of capital, technology and specialised manpower, an issue which will eventually affect their quest for the attraction of energy in their economies. The reigning situation of the oil and gas industries of some of the big countries of this region bolsters the claim.

The Central Asian and Caucasian oil and gas reserves are predominantly