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ISSUES IN CENTRAL ASIA

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K M Pari Velan

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CENTRAL ASIA: AN OVERVIEW

Ajay Patnaik

Central Asia consists of five republics: Uzbekistan, Tajikistan, Kazakhstan, Kyrgyzstan and Turkmenistan. The collapse of the Soviet Union deprived this region of huge central subsidies, as well as a captive market for their products. Though some of these republics are endowed with oil and gas, they possess neither the technology nor capital to extract and process these resources. The Commonwealth of Independent States (CIS), consisting of eleven republics of the former USSR, is still the largest trading partner, though relations with other countries have started to improve and foreign investment has come in. All the Central Asian states have taken steps to strengthen their transition to a market economy; they are at various stages of privatisation, an important element of that process. For example, in 1997, the share of the private sector in the gross domestic product was 55 per cent in Kazakhstan, 60 per cent in Kyrgyzstan, 45 per cent in Uzbekistan, 20 per cent in Tajikistan and 25 per cent in Turkmenistan. Similarly, in the first two states, most of the price subsidies have been withdrawn.

With supplies disrupted from the other CIS states whose economies were in an equally critical shape, dependence on those states was essential yet not very rewarding for Central Asian countries in the initial years of independence. In any case, not all the states of the region are endowed with rich natural resources, with countries like Kyrgyzstan and Tajikistan not falling in the same league as other oil- and gas-rich Central Asian neighbours. Turkmenistan has almost one-half of the proven gas reserves of the Central Asian region and became the fourth largest exporter of gas in the world at the beginning of the 1990s. Uzbekistan was the only other net gas exporter. Kazakhstan, the only net exporter of oil in Central Asia, had 85 per cent of the region's proven oil reserves and was the second largest oil producer in the Soviet Union after Russia. It also provided one-fifth of the USSR's coal. This was the only republic in the region where the level of agricultural employment was below that of industrial employment during the Soviet period. It has a strong industrial sector.

Nevertheless, all the countries of the region faced sharp deterioration in their growth performance. Between 1992 and 1996, real GDP declined on an average by 37 per cent cumulatively (though it varied from 16 per cent in the

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case of Uzbekistan to 60 per cent in Tajikistan). However, positive growth trends have been visible since then, though they are still not out of the red and a few of them have incurred heavy foreign debts. Some like Kazakhstan and Kyrgyzstan were particularly badly hit by the August 1998 financial crisis in Russia that affected their exports to Russia and other neighbouring CIS states. The external debt of the Central Asian states in 1992-98 increased nearly seven-fold, reaching \$10.5 billion by the end of 1998. This too was from zero base at the time of independence, since Russia undertook the foreign trade liability of the former USSR. The debt-GDP ratio grew from 0.6 per cent in 1992 to more than 54 per cent by 1997 in Kyrgyzstan, from 74.4 per cent to 109 per cent in Tajikistan, from nil to 63.9 per cent in Turkmenistan. Only Kazakhstan, from 43.2 per cent to 20.6 per cent, brought it down. In the case of Uzbekistan, though it increased from 3.1 per cent to 17.6 per cent, it is within reasonable limits. While Tajikistan suffered immeasurably from a long and bloody civil war, the combined external debt of Kyrgyzstan and Turkmenistan is likely to create serious problems for their economies in the future.¹

Inflation is still high though it has been brought down from the dramatically high levels in 1992 (two-digit levels by 1997 from four-digit levels in 1992). For example, Kazakhstan, whose inflation rate was more than 2962 per cent at the end of 1992, had brought it down to 11.3 per cent by the end of 1997.

Foreign direct investment has steadily grown over the years, from \$120 million in 1992 to more than \$7.6 billion by the end of 1997. But the bulk of it, \$5.7 billion or about 76 per cent, went to Kazakhstan, mainly due to investments in the oil sector.²

While the economies of the region have more or less stabilised, after a near total disruption in the beginning of the 1990s, the social sector is in a bad shape and can create social and political unrest until urgent steps are taken. Unemployment, official and disguised, is at a high level. Real wages plummeted, and barring Uzbekistan where it was more in 1997 compared to the beginning of 1993, and Kyrgyzstan where it was roughly same, other states registered significant drops. In Tajikistan, the drop was 95 per cent.³

The fall in employment and real wages, combined with the declining expenditure on the social sector and removal of subsidies, brought down the general living standards of the masses. Kazakhstan largely removed subsidies on food, housing, transport and other items in October 1994, and was soon followed by Kyrgyzstan. Subsidies were replaced by targeted cash payments. Beginning in 1993, a wide range of subsidies were withdrawn in Uzbekistan and central heating and public transport subsidies were abolished in 1996. However, price

control for most of the food items and subsidy for some services, including municipal services, remain. Turkmenistan did away with most of the food subsidies by 1996, though relatively small subsidies for bread and public transport remain, but are largely funded by state enterprises through cross-subsidisation. Substantial subsidies remain for gas, electricity and water. Tajikistan replaced its general bread subsidy with targeted cash compensation to families in 1996. While subsidies for electricity and irrigation have been reduced, those for transport, housing and utilities continue.⁴

Poverty manifests in a variety of ways that include a lack of resources necessary for a normal life and to avoid hunger and malnutrition, weak health, limited access to education and other basic services. Poor are not only those who are retired and unemployed, but even those who subsist in low-wage conditions. Households try to deal with economic stress by borrowing and reducing consumption, depleting household assets through distress selling and, sometimes, attempting to tap alternative sources of income by using kinship and other social networks. Social networking has become crucial to survival.

The collapse of the Soviet state was followed by a mushrooming of identities, from ethnic to sub-ethnic, and attempts at forging new integrative identities like pan-Islamic and pan-Turkic ones. Ethnic assertion has taken various forms, including riots in Ferghana (Uzbekistan), Osh (Kyrgyzstan) and Dushanbe (Tajikistan) during 1989-90, a rise of nationalist/Islamic groups such as Erk and Birlik in Uzbekistan, Rastokhez and Islamic Revival Party in Tajikistan, Agzybirlik in Turkmenistan, etc., changes in language laws (making the local languages state languages in their respective states and making the learning of local languages compulsory for state services), ostensibly to discriminate against the Russian and other European minorities, etc. Coupled with these steps were measures such as restoration of traditional names of streets and towns, rewriting of history to glorify national past and personalities, building and renovation of mosques and distribution of religious literature, removal and even destruction of statues of heroes of the Soviet period, and so on.

While ethnic reassertion goes on, there have also been trends towards fragmentation, like the rise of clan identity and regional and other sub-ethnic identities. The removal of the Soviet state's protective role created a vacuum that was filled by sub-ethnic affiliations. Their significance as a basis for political mobilisation, social support and especially for elite relations has dramatically increased. For example, in the case of Tajikistan, intra-ethnic divisions have so far virtually precluded the emergence of a political community, and remain a formidable obstacle to building a coherent nation-state.

In situations of insecurity such as those created in the aftermath of independence, people fell back on whatever forms of solidarity were available, culturally or politically. Solidarity takes the form of regional clans. Regional and clan rivalries have been a tacit constant in the politics of the Central Asian states.

Along with ethnic assertion, the resurgence of competing sub-ethnic loyalties for control over ever-depleting resources and over decision-making institutions has further reduced the space for ethnic minorities to have any effective voice over the affairs in these new states. These factors and religious and cultural revivalism, militancy, etc have pressured the non-Muslim minorities, especially the Russians, to migrate from Central Asia, though the governments and states in the region have taken steps to stem the exodus of skilled Europeans. The net migration of Russians between 1989 and 1996 was 2,026,000 in Tajikistan, 3,817,000 in Uzbekistan, 2,069,000 in Kyrgyzstan, 687,000 in Turkmenistan and 7,507,000 in Kazakhstan.⁵ Since then, however, the exodus has drastically slowed down.

After the initial years of euphoria, there has been a sober realisation of the possible impact of the European emigration on the economy and society of the newly independent states of Central Asia. Political leaders of these states expressed concern that the loss of professional and skilled personnel was already having a damaging effect. This includes leaders in governments and members of political opposition as well. They are urging the non-indigenous people to stay.

Russia, being a very powerful neighbour, cannot be expected to be silent on the plight and flight of Russians from Central Asia. The continued dependence of the Central Asian states on economic and security relations with Russia makes the former take all possible steps to allay the fears of Russian-speaking minorities about their future. Even the language laws are not being implemented rigorously and the Russian language continues to occupy an important place. A majority of states in the region are also facing threats to their territorial integrity, social stability and multi-cultural secular identity from cross-border terrorism, working in tandem with internal forces of ethnic and religious militancy. This and other factors, particularly economic, have prompted some of the states in the region to seek greater integration with Russia. There are efforts to create a common economic space, common defence and security strategies.

On October 10, 2000, in Astana, the Kazakh capital, leaders of five nations – Russia, Kazakhstan, Kyrgyzstan, Tajikistan, and Belarus, making up the four-year-old CIS Customs Union – formally changed the name of their group to Eurasian Economic Community. A major aim of the exercise seems to be to create a strong economic bloc more acceptable to international trade organisations.

The members of the Eurasian Economic Community pledged to form a common trade border, create a unified foreign economic policy and collectively regulate export-import tariffs and prices. The only important and substantive change has been that more weight has been given to Russia. In principle, each member of the CIS Customs Union had an equal voice in the management of the group's affairs. But now, in making collective decisions, Russia will have four votes, Kazakhstan and Belarus two each, while Kyrgyzstan and Tajikistan will have one vote each. The new organisation is to work towards the establishment of common customs, fiscal, monetary and employment policies.⁶

The trouble for Russia and the Central Asian states had been compounded by the victory of the Taliban in Afghanistan in 1996. This provided militants with bases, training facilities and weapons, making the situation difficult for many of the states in the region. The Taliban-controlled Afghanistan had institutionalised sponsored wars in the region in the name of religion, though such sponsorship was available on a smaller scale even before the Taliban takeover. It provided sanctuary to a host of militant groups which operated with impunity. The destabilising effects of the growth of fundamentalism are being felt by Russia in its north Caucasus region. In that context, the stability of the CIS states, especially the Central Asian states, is essential for the territorial integrity of Russia.

Russia under Putin is in the process of reestablishing and consolidating its position in the CIS, particularly in Central Asia. It is not willing to be just an observer to its shrinking influence in what was the USSR, nor allow unfavourable tendencies to grow.

Central Asia since 1991 has metamorphosed from being a periphery of a big power to being the centre of a geographical region. The region separates Russia and China from the zone of instability that includes Afghanistan and countries of the Islamic belt including Turkey, Iran and Pakistan. This makes the region one of vital interest to states far and near. It can act as a buffer for Russia and China and also join ranks with them in the containment of religious fundamentalism and cross-border terrorism, and prevent their spread into the Eurasian zone.

Some authors have also said it is a revival of the "Great Game" over Central Asia as a result of scramble for oil and influence by big powers, such as Russia, China and the US, as well as Iran, Pakistan, Afghanistan and Turkey, making the region the most important area of international focus in the coming years.

The energy resources of the Caspian Sea region (including Turkmenistan and Kazakhstan) and the rest of Central Asia are the least explored and exploited. The Caspian region's proven oil reserves are 16-32 billion barrels, compared to 22 billion barrels for the US and 17 billion barrels for the North Sea. Kazakhstan has the largest oil reserves with an estimated 88 billion barrels, but only 10-16 billion barrels of proven reserves. Turkmenistan has 33 billion barrels of possible oil reserves but only 1.5 billion barrels of proven reserves, and Uzbekistan has a possible reserve of about a billion barrels. Proven gas reserves in the region were estimated at 236-337 trillion cubic feet (tcf), compared to reserves of 300 tcf in the US. Turkmenistan has the eleventh largest gas reserve with an estimated 159 tcf, Uzbekistan 110 tcf, Kazakhstan 88 tcf. The opening up of these resources to the outside world generated expectations among international oil companies. Between 1994 and 1998, 24 companies from 13 countries signed contracts to explore in the Caspian region. Central Asian leaders became obsessed with pipeline projects, potential routes and the geo-politics that grew around them.⁷

As a weakened Russia attempts to keep a grip on what it still views as its frontiers in Central Asia and control the flow of Caspian oil through its pipelines, the US is thrusting itself into the region on the back of proposed oil pipelines which would bypass Russia. Iran, Turkey and Pakistan are building their own communications with the region and want to be the preferred routes for future pipelines. There are rivalries, preferences and strategic imperatives among Central Asian states. Above all, there is fierce competition between American, European and Asian oil companies.

China is set to play a key role in the region. It shares a long border with Kazakhstan, Kyrgyzstan and Tajikistan. China wants stability in its restive Xinjiang region, populated by the same Muslim ethnic groups as in Central Asia (including more than one million Kazakhs and seven million Turkic-speaking Uighurs), secure the necessary energy resources to fuel rapid economic growth and expand its influence in a critical border region. According to some estimates, by 1992 about half the consumer goods sold in Kazakhstan were coming from China which received fertiliser, steel and metal ores in exchange. Relations with Kyrgyzstan are even closer with rail and road links and joint exploitation of river systems. Chinese are especially active in the free-trade zone in the Naryn Oblast of Kyrgyzstan.

Relations with the wider Islamic world have substantially developed. Nevertheless, relations with Israel have been maintained, placing more emphasis on economic rather than religious ties. Since much has not been achieved on the economic front, there is little chance of these getting drawn into the Middle

Eastern or Islamic sphere of influence. On the other hand, China looks set to become a major influence in the economy of the region.

In political and strategic terms, the Central Asian states still have close relations with Russia. They have revived their cultural contacts with the wider Islamic world. The earlier hopes of strengthening economic ties with Islamic neighbours have not materialised. The Central Asian states joined the Economic Cooperation Organisation (ECO) then comprising Iran, Turkey, Afghanistan and Pakistan. The economic weaknesses of the member states and tensions between them have made the organisation ineffective.

Turkey, which shares ethno-linguistic ties with four of these states, has been supporting the modernisation of communications and helping in creating a higher education infrastructure for Central Asian businesspeople, diplomats and army officers.

With Iran, relations are more complex. As regards language and cultural affinity, it is close to Tajikistan. First, while establishing diplomatic relations with Dushanbe, it was soon deeply involved in the revival of Islam in Tajikistan, in funding construction of mosques, etc. But the growth of the radical Islamic movement soon distanced it from the Tajik government. Iran has made inroads into the energy and transport sector in Turkmenistan and Kazakhstan. In May 1996, rail links with the former were established, but investments in pipelines did not materialise. Ashgabat (Turkmen capital) even granted contract for the management of the Turkmenbashi oil refinery to an Israeli company.⁸

Other Islamic countries like the Arab states and Pakistan, which had initially used religious and cultural affinity to influence the region, had taken a backseat with the growth of Wahabism and the victory of the Taliban in Afghanistan in 1996. The states of the region have been wary of allowing such influences to grow and have clamped down on radical Islamic forces. The present war against terrorism and the Taliban in Afghanistan is likely to further reduce the influence of Islamic states in the region.

The West in general has been less forthcoming in aid and assistance to Central Asia than to other parts of the former Soviet Union. Greater concern with stability in Russia made Central Asia an area of marginal interest. Authoritarian regimes have not helped their cause since many states and aid agencies in the West link financial aid to progress in democracy. However, there has been concern at the development of radical Islamic movements that may threaten Western interests. The US has also been keen to exploit the energy resources of Central

Asia that may reduce the West's dependence upon the Gulf. Added to these are the challenges posed by drugs and organised crimes in the region.

Central Asia has been hit hard by the explosion of Afghan heroin. Tajikistan and Kyrgyzstan developed as important opium routes and became significant drug producers. Heroin addiction has been increasing in Tajikistan, Uzbekistan, Turkmenistan and Kyrgyzstan as they became part of the heroin export chain. Smuggling of drugs into Tajikistan has been about a ton a day. Drugs have become one of the most serious threats along with fundamentalism, terrorism and economic collapse in Central Asia.

In recent years, the 19-member NATO alliance has sought to establish the same sort of ties with the Central Asian countries as it did earlier with the former Warsaw Pact countries in Central and Eastern Europe. Kazakhstan, Uzbekistan, Kyrgyzstan and Turkmenistan have been members of NATO's Partnership for Peace programme since the mid-1990s. And all of them participate in the Euro-Atlantic Partnership Council, or EAPC, where 47 nations discuss and plan cooperative activities.

Partnership for Peace offers exercises, training and attendance at NATO colleges, English-language training, programmes and a lot of cooperation in civil emergency planning, NATO's Science for Peace programme, and also its environmental programme. Uzbekistan is already engaging itself with the alliance in a broad spectrum of consultations and cooperation. Some of the former Soviet republics have formed military ties among themselves, such as the GUUAM – Georgia, Ukraine, Uzbekistan, Azerbaijan and Moldova. GUUAM has said that one of the main roles of a joint military unit will be to protect oil pipelines running westwards from Azerbaijan. Their alliance is also seen as an attempt to counter the political and economic might of Russia. The present campaign against the Taliban has brought home the significance of the Central Asian states to US regional strategy. The states of the region are likely to experience greater American involvement which is not going to be confined to oil. This is likely to bring in greater international efforts to promote economic and social stability in the region.

In short, Central Asian states have achieved a certain degree of political stability after the few initial years of chaos, economic hardship, inter-ethnic tension and threat of radical Islam. Even the Tajik civil war has abated and the reconciliation process has resulted in a national government. The newly independent states chose different routes to stability, some through economic liberalisation and liberal democracy, and others through regulated markets and slow privatisation with a greater role of the state in economic and social matters.

The latter preferred socio-political stability to instant democracy. The democratisation process has been slow. Even states that appeared to be making progress are still bogged down in personality cults and oligarchic controls. The “shock therapy” method of a quicker transition to a market economy has given way to more gradualistic approaches. All the states are experiencing a religious revival, though they have remained steadfastly anti-fundamentalist. Inter-ethnic tensions have eased, the mass exodus of Russian-speaking people has stopped and there are even reports that some of those who had left have returned. The societies are less nationalistic and have realised the merits of remaining multi-cultural and multi-ethnic. With international efforts to curb global terrorism and religious radicalism intensifying, Central Asia is likely to become an arena of international activism and competition among big powers.

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TRANSPORT AND COMMUNICATION INFRASTRUCTURE IN CENTRAL ASIA

K M Pari Velan

This paper makes an attempt to trace the level of transport and communication infrastructure in five Central Asian republics in a comparative perspective. The republics are Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

These countries have joined the Economic Cooperation Organization (ECO). One of the main objectives of the ECO is to promote transport and communication links among the countries of the region. It seems that the Central Asian republics would like to lay stress on economic cooperation and keep controversial political issues out of the ECO. In accordance with an inter-governmental treaty signed between the Central Asian republics and other countries of the ECO, the construction of the Tedjen-Serakhs-Mashhad railroad is being implemented. With technical help from the European Union, a trans-Caucasus railway line is being planned. It will connect the Central Asian countries through Azerbaijan and Georgia to the Black Sea ports. Uzbekistan is interested in the renovation and construction of automobile roads. The Andijan-Osh-Irkashtam-Kashgar road opens the way to China and Pakistan across the Karakoram Highway. The Bukhara-Serakhs-Mashhad-Tehran and Termez-Herat-Kandahar-Karachi roads open up possibilities of reaching the Indian Ocean across Iran, Afghanistan and Pakistan respectively. A continuing civil war in Afghanistan not only poses a security threat to the Central Asian republics, but have also blocked the trade and transit route to the Indian Ocean across Afghanistan. The Central Asian states would like a peaceful land route through Afghanistan to Pakistan and the southern seas. This will give them access to the larger market of India. The same logic applies to the projected oil and gas pipelines also.

Transport and trade ministers from Central Asia and the Caucasus region gathered in Tbilisi in Georgia to discuss the so-called "Silk Road of the 21st century": a corridor that follows the historic route of medieval silk caravans from Asia through the Caucasus to Europe. The timing of the conference coincided with an announcement by the European Union and the World Bank of new

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railroad, seaport and highway projects between the Black Sea and Central Asia. Telecommunications and oil pipelines also were envisaged as part of the trade corridor. Officials from the World Bank, the International Finance Corporation and the European Bank for Reconstruction and Development (EBRD) were in Tbilisi to meet private investment bankers regarding financial assistance for transport projects.

Ministers from Georgia, Azerbaijan, Kazakhstan, Turkmenistan and Uzbekistan are focusing on investment incentives and privatisation within the transport corridor. The new 'Silk Road' will give the former Soviet republics greater economic independence from Russia by allowing them to diversify as trade partners. At the moment, trade elsewhere is difficult because the transport systems of the Soviet era have been altered to the needs of Russia.

Efforts to build stronger east-west links are backed by a European Union programme called TRACECA (Transport Corridor Europe-Caucasus-Asia). Launched in 1993, the programme is funded by the EBRD, the World Bank, the Asian Development Bank and private investors. One TRACECA project seeks to rehabilitate and modernise the existing oil and natural gas transmission grids in the Caucasus and Central Asia. Another project, which is under way, seeks to create a reliable southern air route by improving air traffic control systems in all the states along the transport corridor.

But the Economist Intelligence Unit of the EU says the TRACECA idea is still a long way from being implemented as a trouble-free transit route. Freight transporters face many tariffs and corrupt customs officials as they move cargo from one country to the next. The Economist Intelligence Unit predicts that freight haulers will find Russia to be an easier transit for years to come.

Another impediment is political instability along the transport route. Fighting in Azerbaijan's separatist region of Nagorno-Karabakh is one such problem. Major railroad, highway and pipeline routes between Baku and Tbilisi are just to the north of the ethnic-Armenian enclave. That has made potential foreign investors hesitate on infrastructure investments nearby.

The standoff between Baku and Yerevan (Armenia's capital) over Nagorno-Karabakh has also meant little cooperation between the two governments on transport infrastructure. Other states have difficulties in reaching an agreement on standard tariffs and infrastructure. In Bishkek, the prime ministers of Kazakhstan, Uzbekistan, Kyrgyzstan and Tajikistan failed to reach an understanding on their power systems.

Transport in Kazakhstan

In 1996 the total length of the rail track in use was 13,537 km, 3,611 km of which were electrified. The rail network is most highly concentrated in the north of the country, where it joins the rail lines of the Russian Federation. From the former capital, Almaty, lines run towards the north-east and join the Trans-Siberian Railway. Similarly, they run towards the West, to Chimkent, and then north-west along the Syr-Dar'ya river, to Orenburg in European Russia. Measures to restructure and privatise Kazakhstan's railway lines would remain under state control.

	1996	1997	1998
Passenger km (million)	14,184	12,804	10,668
Freight net ton km (million)	112,692	106,428	103,044

Source: UN Monthly Bulletin of Statistics, 1999

In the late 1990s, work on the underground railway (metro) in Almaty started. It was envisaged that the metro system, when completed, would comprise three lines (35.4 km in length).

	1995	1996	1997
Passenger cars	1,034,129	997,539	993,323
Buses and coaches	54,006	49,166	48,244
Goods vehicles	318,778	295,378	313,676

Source: IRF, World Road Statistics, 1998

In 1997, Kazakhstan's total road network was 125,796 km, including main roads of 17,660 km and secondary roads of 65,591 km. About 83 per cent of the network was hard-surfaced. In early 1999, the World Bank approved a \$100 million loan to enable Kazakhstan to repair important sections of the main roads, and to improve road maintenance systems. Kazakhstan is linked by road with the Russian Federation (46 border crossings), Kyrgyzstan (seven border crossings), Uzbekistan (seven border crossings), and via Uzbekistan and Turkmenistan with Iran. There are six road connections with China, including two international crossings at Korgas and Bakhty.

	1996	1997	1998
Number of vessels	16	18	18
Total displacement (gross registered tonnage)	9,165	9,524	9,253

Source: Europa Yearbook 2000

Kazakhstan's ports of Atyrau and Aktau are situated on the eastern shores of the Caspian Sea. In 1997, a project was undertaken to upgrade the port of Aktau, at an estimated cost of \$74 million. Once completed, it can handle more than 7.5 million metric tons of petroleum and up to 1 million tons of dry freight

annually. In 1998, the port handled some 2 million tons of petroleum. In the same year, Kazakhstan's merchant fleet comprised 18 vessels, with a combined displacement of 9,253 gross registered tonnage (grt). Kazakhstan has an inland waterway network extending over some 4,000 km.

	1993	1994	1995
Kilometres flown	16 million	16 million	35 million
Passengers	706,000	702,000	1,117,000
Passengers km	1,810 million	1,787million	2,429 million
Total ton km	172 million	170 million	237 million

Source: UN Statistical Yearbook 1997

There are 18 domestic airports. Three airports provide international services (Almaty, Aktau and Atyrau). In 1999, the airport at Astana was being upgraded after the city became the country's capital in mid-1998. The national airline, Air Kazakhstan, was registered in January 1997 and replaced Kazakhstan Aue Zholy, which has been declared bankrupt in 1996. There are also six private airlines. Almaty airport had links with cities in the Russian Federation and other former Soviet republics, apart from cities in Europe, Asia and West Asia.

Transport in Kyrgystan

Railways: Because of the mountainous terrain, the country has only one main railway line (340 km) in north Kyrgystan. It connects the republic with the railway system of the Russian Federation through Kazakhstan. Osh, Jalalabad and four other towns of the region bordering Uzbekistan are linked by railway tracks of short length. In the middle of 1998, work began on a \$2,5000-million project to construct a railway line connecting eastern Uzbekistan with southern Kyrgystan.

Roads: In 1996, Kyrgystan's road network was estimated to be 18,500 km, including 140 km of motorways, 3,200 km of main roads and 6,380 km of secondary roads. About 91 per cent of roads were paved. The roads connecting the neighbouring countries are some of the link: mainly Kazakhstan in the north, Uzbekistan in the west and China in the South-east. A main road linking the cities of Bishkek and Osh was under reconstruction in the late 1990s.

Civil Aviation: There are two international airports: one at Bishkek (Manas airport), which provides links with cities in the Russian Federation and the neighbouring Central Asian states, and another at Osh.

	1993	1994	1995
Kilometres flown	8 million	8 million	9 million
Passengers carried	464,000	464,000	439,000
Passengers km	568 million	568 million	573 million
Total ton km	52 million	52 million	54 million

Source: UN, Statistical Yearbook 1998

During 1999, the Manas airport was upgraded by a British-Japanese joint venture to pave the way for privatisation. There are domestic airports too.

Kyrgyzstan has not been able to adequately maintain its transport network since 1991. Some of the main highways through the mountainous terrain are no longer passable during winter, cutting Bishkek off from the country's provincial centres.

The EBRD says the development of secure, reliable links by road, air and rail is a matter of high priority for Kyrgyzstan's economic development. One project is meant to upgrade the Manas international airport. The other is an \$86-million project to improve the roads between Bishkek and the southern city of Osh. Experts report that the 600-km journey routinely takes 16 hours by car. The EBRD and Japan are co-financing the projects. The road from Bishkek to Osh will be extended into Tajikistan, and possibly further to Pakistan.

Kyrgyzstan's rail roads pass through Uzbekistan and Kazakhstan. Officials in Bishkek are trying to ensure that the newly built railroads remain within the Kyrgyz territory. There are also plans to build rail links between Ferghana and China.

The Economist Intelligence Unit of the EU reports that China is keen to open a trade route from Kashgar through southern Kyrgyzstan to Uzbekistan. Analysts say the project will strengthen China's regional position by giving it access to Central Asia that avoids Kazakhstan, where Russia wields extensive influence.

Transport in Turkmenistan

Railways: The main railway line in the country runs from Turkmenbashi (Krasnovodsk), on the Caspian sea in the west, via Ashgabat and Mary, to Charjou in the east. From Charjou one line runs to the Central Asian countries in the east, while the other runs north-west via Uzbekistan and Kazakhstan to join the rail network of the Russian Federation. In 1998, the railway length in Turkmenistan was 2,313 km. In 1996, rail links were established with Iran on the route Tejn-Serakhs-Mashhad, making it possible to travel from Turkmenistan and Turkey (Istanbul), as well as giving access to the Persian Gulf.

Table 6: Railways

1996	
Passenger	7.8 million
Passenger km	2,104 million
Freight transported	15.9 million metric tons
Freight ton km	6,779 million

Source: *Railway Directory, 1998*

Roads: In 1996, according to unofficial figures, the road length was 24,000 km, of which about 19,500 km were hard-surfaced.

Shipping: Shipping services link Turkmenbashi (Krasnovodsk) with Baku (Azerbaijan) and the major Iranian ports on the Caspian sea. The Amu-Dar'ya is an important inland waterway.

Table 7: Shipping			
	1996	1997	1998
Number of vessels	37	40	38
Total displacement (gross registered tonnage)	40.2	38.8	38.8
Source: <i>World Fleet Statistics</i>			

Civil Aviation: Turkmenistan's international airport is at Ashgabat. A new terminal building was completed in 1994, expanding the airport's capacity. The second phase of development, involving the construction of a new runway and the installation of a modern airport system, was completed in 1998.

Table 8: Civil Aviation			
	1994	1995	1996
No. of passengers	748, 000	748,000	523,000
Passenger km	1,562 million	1,562 million	1,093 million
Total ton km	143 million	143 million	101 million
Source: <i>UN Statistical Yearbook 1998</i>			

Turkmenistan's transport system suffers from problems typical of the Soviet days. The main task is to create international links with places other than those in Russia.

Two years ago, rail links were established between Turkmenistan and Iran. The 300-km link line passes from Kazakhstan, Uzbekistan and Turkmenistan to the Iranian port of Mashhad on the Indian Ocean.

Turkmenistan signed an agreement with Uzbekistan, Azerbaijan and Georgia to upgrade the rail and ferry links from the Caspian Sea port of Turkmenbashi to the Black Sea.

The EBRD has approved a \$30-million loan to modernise the Turkmenbashi port, which is seen as an important link along the route between Georgia's Black Sea coast and Central Asia. The bank says that without upgradation, some of the Turkmenbashi port facilities will cease operation within three years. The EBRD says a well-functioning port will enable Turkmenistan to reduce its dependence on exports of oil, gas and cotton because new export markets can be developed for other products.

The EBRD has approved a \$50-million loan to upgrade the 350-km-long road from Ashgabat to Mary in east Turkmenistan. Work is under way to improve the highway from Ashgabat to Turkmenbashi, and to build a rail and highway bridge across the Amu Dar'ya near Charjou.

For now, Turkmenistan's economy relies heavily on a pipeline from its southern natural gas field of Korpedzhe to Kurt Koy in northern Iran. It is the first export pipeline to send gas directly outside the former Soviet Union. The disputes between Turkmenistan and the Russian gas monopoly, Gazprom, over the use of pipelines passing through Russia underscore the importance of the pipeline. In 1993, Gazprom blocked Turkmen exports outside the former Soviet Union. Since March 1997, Turkmenistan has not sent gas through the Russian pipeline route.

Turkmenistan's territorial dispute with Azerbaijan over Caspian Sea oilfields has raised concerns about future cooperation between the two countries in other infrastructure projects. The construction of a gas pipeline through Afghanistan to Pakistan has been delayed by the protracted war between the Taliban Islamic militia and the Northern Alliance.

Meanwhile, Turkmenistan has managed to build an international airport at Ashgabat. A second runway of about \$48-million, was completed. The French firm Thomson-CSF is modernising the air traffic control centre at \$23 million.

Transport in Tajikistan

Railways: There are few railway lines in Tajikistan. In 1996, the total rail network was 482 km. The railways link the major centres of the country with the railway network of Uzbekistan, connecting Khojand to Ferghana Termez. A new line between Isfara (in Leninabad) and Khavast (in Uzbekistan) was opened in 1995. In 1997, a passenger route between Dushanbe and Vogograd in Russia was inaugurated. The first section of a new line between Kurgan-Tyube and Kulyab in the south-western part of the country was inaugurated in 1998. The predominantly mountainous terrain makes the construction of more extensive networks difficult.

Table 9: Railways

	1994	1995	1996
Passenger km	366 million	134 million	95 million
Freight ton km	2,169 million	2,115 million	1,719 million

Source: UN, Statistical Yearbook 1998

Roads: In 1996 Tajikistan's road length was estimated to be 13,700 km: highways of 4,620 km, secondary roads of 5,890 km, and other roads of 3,140 km. Of the total, 82.7 per cent were paved roads. The principal highway of

Tajikistan is the road that links the northern city of Khojand across the Anzob pass (3,372 metres) to Dushanbe; subsequently, it extends to the border town of Khorog (Goryni Badakhshan) and then through the Pamir mountains to the Kyrgyz city of Osh across the Akbatyal pass (4,655 m). This arterial route has problems peculiar to much of the country's land transport. During winter, heavy snowfall causes the road to be closed for eight months. There are standard roads linking Dushnabe to the southwestern cities of Kurgan-Tyube and Kulyab. In 1994, Tajikistan and Pakistan held discussions on a Dushanbe-Karachi highway. In early 2000, work began on a highway linking east Tajikistan with China.

The first highway link between Tajikistan and China will be connected to the Karakoram Highway, an important trade route between China and India. Access to this road will give Tajikistan an alternative to its main export route through Uzbekistan, which periodically closes its border to exert political pressure on Dushanbe.

Meanwhile, work is continuing on a project, belonging to the Soviet era, to extend a railroad line from Kulyab in southeastern Tajikistan to Kalai Khumb, a city in central Tajikistan. The work, delayed by Tajikistan's civil war in 1992, was resumed in 1995.

A tunnel and a road improvement project in the mountains between Dushanbe and the northern city of Ura-Tyube have been proposed to help traffic during winter and also to reduce travel duration. But the project has been delayed because of a lack of funds and shortage of materials.

The EBRD's transport strategy for Tajikistan is to lay the groundwork for investment: first in aviation and then, following improvements in the economic environment in road projects.

Civil Aviation: The main international airport is at Dushanbe. There is another major airport at Khojand. The country is linked to the cities in the Russian Federation and the other Central Asian Republics and also to a growing number of destinations in Europe and Asia. Tajik Air operates flights to Russia, India, Pakistan, Iran, Turkey, Kazakhstan, Kyrgyzstan, Germany and the United Arab Emirates.

Table 10: Civil Aviation

	1994	1995	1996
Kilometres	8 million	10 million	7 million
Passengers	783, 000	822,000	594,000
Passenger km	2,231 million	2,427 million	1,825 million
Freight ton km	205 million	223 million	166 million

Source: UN, *Statistical Yearbook 1998*

Transport in Uzbekistan

Uzbekistan wants to have a trade corridor to enable it to have greater independence from Russia. President Islam Karimov ordered that exports of the country's main agricultural crop, cotton, should be through the trans-Caucasus corridor more often than by train through Russia. The goal is to give the landlocked country more export options. Most of the cotton exports this year are expected to be through the Georgian port of Poti on the Black Sea.

Compared to the other Central Asian republics, Uzbekistan has a relatively extensive transport network. Central Asia's only underground metro system is in Tashkent. But Uzbekistan's highways are in need of repair. With an increasing number of trucks, road conditions have deteriorated.

The EBRD says Uzbekistan's railroad system will require "carefully focused investments" to achieve self-sufficiency and to reorient itself to operate in a market economy. Feasibility studies have started on road and rail projects but the modalities of financing has not been worked out. Improvements are under way at the Tashkent airport. These include upgrading of the air traffic control system and the resurfacing of runways to allow landing in bad weather conditions. Airport modernisation at Samarkand, Bukhara and Urgench is on.

Uzbekistan's railway network is connected to those of Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan. In 1994, Uzbekistan State Railway Company was established and it took over the facilities of its predecessor, the Central Asian Railway. In 1996, there was standard-gauge of about 7,000 km. The Tashkent metro was inaugurated in 1977.

	1994	1995	1996
Kilometres flown	30	32	23
Passengers carried ('000)	2,217	2,217	1,556
Passenger km	4,855 million	4,885 million	3,460 million
Cargo (in tons)	447	447	321

Source: UN Bulletin of Statistics 1998

In 1997 Uzbekistan's road length was 43,463 km. The length of main roads or national roads was 3,237 km and that of secondary roads was 18,767 km. The rest of the roads totalled a length of 21,459 km. In 1996, 87.3 per cent of the roads was paved. The extensive use of the waters of the Amu-Dar'ya and Syr-Dar'ya for irrigation lessened the flow of these rivers and caused the desiccation of the Aral Sea. This reduced a valuable transport asset. However, the Amu-Dar'ya Steamship Co still operates an important river traffic network.

There was a proposal in 1991 to construct an airport 45 km from Tashkent. However, it was rejected in 1995 in favour of modernising the existing airport.

Table 12: Expenditure on Transport, Storage and Communications

(in million roubles)

Countries	1990	1991	1992	1993	1994	1995	1996
Kazakhstan	22	32	45	29	47	108	159
Kyrgyzstan	2	4	21	20	54	73	97
Uzbekistan	192	263	231	280			
Russian Federation	1820	1715	1439	1145	994	909	

Source: UN Statistical Bulletin 2000

Table 13: Comparative Communication Infrastructure among Central Asian Republics: In 1996

	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Radio receivers ('000)	6,460	515	800	1200	10,800
Television ('000)	3,870	200	19	800	6,300
Telephone ('000)	2,100	390	247	338	1,531
Telefax station	3000	n.a	1,500	n.a	1,900
Mobile phones	4,650	120	n.a	1600	9,510
Books	21,014	1,980	997	5,493	n.a
Newspaper ('000)	500	896	120	n.a	n.a

Source: Europa Yearbook 2000

The Central Asian republics are on the way to improve their transport and communication infrastructures. But it has enormous scope and potential for the external players to invest and build infrastructure. The governments of these republics are looking for ways to improve their infrastructure. It should not be very difficult for them to attract foreign investments because of their geo-strategic location.

ENERGY RESOURCES AND INDUSTRIES IN CENTRAL ASIA

Phool Badan and Niranjan Behera

Central Asia's abundant and untapped energy resources make it one of the most promising regions in the world, specially for oil companies. Though all forms of energy can be found here, the focus of this paper is on oil, gas, power, coal and other energy industries.

Most of the oil and gas production in the region takes place in Kazakhstan, Turkmenistan and Uzbekistan. Kazakhstan is the highest oil producer in Central Asia and the second highest in the Commonwealth of Independent States (CIS) after Russia. Kyrgyzstan and Tajikistan produce relatively small quantities. Tajikistan and Kyrgyzstan generate a large amount of power for domestic needs while Kazakhstan, Uzbekistan and Turkmenistan produce less. The bulk of the coal production in Central Asia takes place in Kazakhstan and Uzbekistan while Kyrgyzstan and Tajikistan produce relatively a small amount. Turkmenistan does not have a coalfield. Compared to the Soviet days, there has been a decline in natural gas production. The Central Asian republics have 40 per cent of the world's proven gas reserves.

The countries of Central Asia, which became independent after the Soviet disintegration, suffer from infrastructural weaknesses, leading to slow economic growth and vulnerability to external shocks. During the Soviet period, Russian leaders controlled the routes for petroleum products. This created a "dependency syndrome" on the part of the Central Asian states.

The Central Asian states have been a significant producer of energy for long. Energy production, particularly oil, started in Central Asia much before the Russian Revolution of 1917. Ample potential still exists to make the region a major actor in world markets. Much of the production will be for export because oil consumption in these relatively less industrialised states is small.

The region's ambitious production plans largely depend on the development of several big projects, usually involving foreign participation, as well as a host

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of small ones. The Central Asian republics have been the main target of the western oil companies which have ventured into the former Soviet Union, Kazakhstan being the chief object of attention. The main reason is that these countries have more authoritarian governments than the one in Russia.

The Central Asian countries do not have the technological and industrial base that Russia has. Therefore, they have come to realise that there is very little possibility of developing their resources without external assistance. However, western countries are not in a position to ignore Russia because the latter largely controls the possible routes for pipelines for transporting oil and gas from the region. Russia has asked for a stake in some of the projects in Azerbaijan and Kazakhstan or for additional concessions for transit access.

Resources in the region: A history

Energy resources, mainly oil, in the Caucasus and the Central Asian region find mention in the records of the 13th century. Throughout the 20th century, this factor has played an important role in world politics. The 19th century “Great Game” was based on competition for power and influence over the Central Asian region. But by the end of the century, an advancement in technology increased the prospects of exploiting these reserves. Because of this, oil became an important factor in competition, and the game became more intense. The mineral resources in Central Asia, particularly in Turkmenistan and Kazakhstan, were not exploited on a large scale until the 1950s. From the mid-19th till the mid-20th century, most of the competition was over reserves in the region.¹

Early oil trade records show that oil was used for cooking and medicinal purposes. Although Russia’s interest in the region goes back nearly 300 years, with their arrival in the early 20th century oil extraction acquired a modern character. The Czarist government declared the opening up of a modern petroleum industry when it began drilling an oil well in Wahr, the giant Bibi-Ebat field in 1871. By the 1870s, some western oil companies made an appearance, those controlled by the Nobel brothers and the Rothschild family being among them. By 1898, Russia had become the largest oil-producing nation, maintaining this position till 1902. By the beginning of the 20th century, the Caspian Sea region was producing nearly 50 per cent of the world’s oil.²

Oil production in Kazakhstan started before World War I when the Dossor and Makat fields in the Emba district of Alyrau Oblast were opened up in 1911 and 1915. These fields are operated by Embaneft, the local oil production association. Numerous small fields in the district have been developed since then.

These old oil fields are located in the North Caspian Sea (Emba) basin. It covers an area of about 500,000 square kilometres across the northern part of the Caspian Sea. Earlier, the basin's main producing compasses were Permian and Cretaceous rocks. But after being ignored during the 1960s and the 1970s because of drilling up to a greater depth and because no large fields were discovered, a number of new fields were opened up in deeper carboniferous carbonates below Permian salt domes. Since then, the basin has become a major focus of development activity, associated with discoveries of deep fields, such as the Tengiz field. By 1985, 104 fields had been discovered.

Energy resources in Central Asia

Kazakhstan: The country has large oil deposits. With proven and possible oil reserves of 200 billion barrels, the Caspian Sea region is on a par with Iraq.³ However, estimates vary. In 1992, petroleum production increased by 3.4 per cent to reach 27.5 million tons. With the ongoing development of the North Caspian fields, Kazakhstan is expected to play a bigger role. In December 1995, the American Petroleum Institute estimated that the states bordering the Caspian Sea contained two-third (659 billion barrels) of the world's current reserves of a trillion barrels of oil. On April 30, 1997, *The Wall Street Journal* estimated the possible reserves in the Caspian Sea region at 178 billion barrels. The former US Deputy Secretary of State, Strobe Talbott, quoted 200 billion barrels, supported by other sources. Geoffrey Kemp (quoted in the article "The Geopolitics of the Caspian Basin") concedes that the oil reserves of the Caspian region could be as high as 200 billion barrels. In June 2000, the US Department of Energy estimated that even if one did not count Russia's and Iran's regional assets, the region had 16-32 billion barrels of proven oil reserves, and another 206 billion barrels of possible oil reserves.⁴

The estimates, whether accurate or not, are misleading because reserves do not translate into instant wealth. The Kashagan field, by some industry estimates, could take up to five years to begin producing oil. A lot depends on the quality of the oil and how difficult it is to extract, refine and deliver it. For example, there is more oil in the Canadian tar fields than in the Arabian peninsula but the extraction cost of the Canadian oil is 30 times more than that of the Arab oil. Thus, varying estimates put the average price of extracting the Caspian oil at something between \$5 and \$7 per barrel.⁵

Kazakhstan has much larger reserves than were estimated during the Soviet period. As stated earlier, it is the second largest oil-producing country among the erstwhile Soviet republics after the Russian Federation.

According to Kazakh Scientific Research and Geological Exploration Institute, Kazakhstan contains some 15.6 billion barrels of oil reserves.⁶ Almost 50 per cent of the oil comes from three large onshore fields: Tengiz, Uzen and Karachaganak. Kazakhstan is eager to raise its production capacity above 3 million barrels per day. To achieve this, it has opened up its resources for foreign companies. International oil projects have been in the form of joint ventures, production-sharing agreements and exploration concessions. In April 1993, Chevron concluded a \$20-billion Tengizchevroil joint venture to develop the Tengiz oil field with 6-9 billion barrels of oil reserves. The Tengizchevroil joint venture produced 190,000 barrels per day in 2000. About 65 major fields have been opened up for exploration in the northern Caspian Sea basin.

The oil sector of the republic is administered by Kazakhstanmunayaz, a national oil company. Drilling and production are done by seven enterprises or production associations: Embaneft, Mangistaumunaygaz, Aktyubneft, Tengizneftegaz, Yuzhkazneftegaz, Karazhanbaslermneft and Kazneftebitum.

Foreign consortiums accounted for 52.4 per cent of the oil production in 2000. The state-owned firm, Kazakhoil, produced 16.8 per cent of the total output in 2001. The government is scaling down Kazakhoil's operation because of a financial squeeze. It also cancelled its right to sign production-sharing agreements on the government's behalf and its right to receive royalties from firms overseas.

Kazakhstan is the only former Soviet republic (besides Russia) that produces more crude than its refineries process. In other words, it exports part of it. Almost the entire crude of Kazakhstan is produced in the western side of the republic, the North Caspian basin and the Mangyshlak Peninsula. Some of it is processed by a refinery at Atyrau. Most of it is exported and refined at Samara, Volgograd and Orsk in the Russian Federation, and Baku in Azerbaijan. Kazakhstan's two other refineries at Pavlodar and Symkent receive crude through a pipeline from western Siberia.

Kazakhstan exported 13.7 million metric tons of crude in 1993, 7.9 million tons in 1994, 9.7 million tons in 1995, and 12.3 million tons in 1996 by using the Russian crude pipeline system, despite capacity constraints at the main Russian export of Novrossiysk on the Black Sea.⁷

Tengiz Exploration Field Development is extracting crude to be exported through the 1,580-km-long Tengiz-Novrossiysk pipeline owned by the Caspian Pipeline Consortium. The stakeholders in the consortium are Chevron, Rosneft,

Luk Oil, Mobil, Agip, and British Gas. The largest output is in Mangyshlak and Buzachi Peninsula.

Kazakhstan also exported approximately 473,000 barrels of crude and condensate per day in 2000. A major amount was transported by pipeline, mainly the Atyrau-Saransk-Samara pipeline through Russia, with additional supplies by rail and barge across the Caspian Sea.

Local companies also play a role. The Offshore Kazakhstan International Operating Company is currently developing the Kashagan-Kerogly oil field. Its partners are British Gas, ENI EPA (Italy), Mobil (US), Shell (the Netherlands) and Inpex (Japan). The field covers an area of 5,781 sq km.

Uzbekistan: Uzbekistan is the only state which has substantially increased its oil production since independence. Crude production rose from 66,000 barrels a day in 1992 to 162,000 barrels a day in 1999, dipping slightly to 132,000 barrels a day in 2000. Oil reserves in the country are estimated at 600 million barrels, with 171 oil and gas fields. Among these, oil is produced at 51. The Bukhara-Khiva region has over 60 per cent of Uzbekistan's discovered oil fields, including the Kaktumalak field which accounts for about 70 per cent of the republic's production. The Ferghana valley has 20 per cent of Uzbekistan's oil fields, and further exploration will be made in the Ustyurt plateau and the Aral Sea. The Uzbekistan government is developing oil and gas deposits in Kaktumalak, Shurtan, Olan, Urgin and South-Tandirchi. All these are in the southern part of the republic. Oil tanks are being constructed in Angren (Tashkent region) and in Pap (eastern Namangan region).

Uzbekneftegaz, a state-owned company, controls the republic's oil and gas sector. Since independence, the Uzbek government has invested \$1.2 billion to modernise Uzbekneftegaz. It is soliciting foreign investment in this sector.

Uzbekistan faces enormous export problems because it does not have a pipeline, being a landlocked country and also surrounded by landlocked countries. It exported 107,000 metric tons of crude in 1993, 16,000 tons in 1994, 161,000 tons in 1995, and 289,000 tons in 1996. At the same time, it imported 4.1 million metric tons in 1993, 1.5 million tons in 1994, 206,000 tons in 1995, and only 4,000 tons in 1996.⁸ However, the relatively small exports over the next 10-20 years will probably be insufficient to support the construction of a new export pipeline without additional quantities from other countries in Central Asia.

Kyrgyzstan: The country does not have large oil reserves like Kazakhstan, its northern neighbour. With reserves of only 40 million barrels, the country is

dependent on imports. Kyrgyzstan has seven developed oil fields and two oil and gas fields, but due to the country's mountainous terrain, extraction is difficult and costly. In 2000, it produced 4,400 barrels of oil per day. Kyrgyzstan's oil consumption has declined sharply since 1992, when it consumed 325,000 barrels per day. Still, its oil consumption in 2000 of 11,000 barrels per day required imports to meet domestic needs.⁹

Oil reserves in the Ferghana Valley are estimated at 100 million tons, and those in the Chuy, Alay, Issyk-kul and At-Sashi depressions are estimated at 200-300 million tons.¹⁰ Before independence, Kyrgyzstan did not consider drilling in these regions because neighbouring countries were supplying oil regularly.

Kyrgyzstan is planning to increase its oil and gas production in five to six years. For that, it has sought funds from multilateral development banks and foreign investors. A Netherlands-Kyrgyz joint venture began oil and gas prospecting in 1998.

Tajikistan: It has a very small quantity of oil. Most of the production takes place in the northern Leninabad-Soghd region. Tajikneftegaz is responsible oil exploration, drilling and production. In 2000, an economic crisis and a lack of investment to maintain the oil infrastructure have caused production to decline. Tajikistan does not have a refinery. Thus, it imports all petroleum products. Most of these are supplied by Uzbekistan, and the Commonwealth of Independent States accounts for more than 97 per cent of Tajikistan's petroleum product imports. In September 2000, an Austrian firm agreed to support Tajikistan's plan to build an oil refinery, but not much progress has been made.

Turkmenistan: It has oil reserves of 546 million barrels, with possible reserves of 1.7 billion barrels. According to the Turkmenistan Geologists Survey reports, the republic has 6.3 billion tons of oil.¹¹ The output fell after independence to 81,000 barrels per day in 1995, increased to 156,400 barrels per day in 1999 and again came down to 148,000 barrels per day in 2000. Turkmenneft is a state-run company that accounts for most of the oil extracted in the country.

Turkmenistan has announced plans to increase production, having developed some new oil wells in the western part of the country. There are five state-owned companies in the state: Turkmengeologia (exploration), Turkmenneft (production), Turkmenneftgazstroi (oil- and gas-related construction), Turkmenneftgaz (oil and gas marketing) and Turkmenrozzgaz.

Argentina's Bidas Company has got two contracts to develop the Kotur-Tepe oil fields. Eastpau of the United Arab Emirates has also signed contracts

for exploration and production. Iran has signed agreements with Turkmenistan in 1993-94 to upgrade oil refineries.

Refining

Kazakhstan: Kazakhstan has three major oil refineries supplying the northern region (at Pavlodar), the western region (at Atyrau), and the southern region (at Symkent). The amount refined works out to 427,000 barrels per day. The refinery at Pavlodar receives crude through a pipeline from western Siberia. The Atyrau refinery uses domestic crude from northwest Kazakhstan, and the Symkent refinery uses oil from Kazakh fields at Kumkol, Aktyubinsk and Mokatinsk. But only 60 per cent of the crude is utilised. The Mangistau refinery's tender has been awarded to Japan. At Uralsk, Agip is building small refineries in collaboration with British Gas.

Through their pipeline networks, Russia and Kazakhstan plan to swap 30,000 barrels of oil per day. Kazakhstan will deliver oil to Russian refineries through the Atyrau-Samara pipeline and Russia will deliver oil through the Omsk-Pavlodar pipeline. In addition, Kazakhstan and Iran are poised to begin a swap-system whereby Kazakhstan would send its crude by ship to the Iranian port of Meba, from where it would travel by a pipeline to a refinery at Tabristo to be refined and consumed locally. In exchange, Kazakhstan would receive the same volume for export at an Iranian port in the Persian Gulf. Kazakhstan and Iran signed an agreement in 1996 according to which Kazakhstan would swap up to 120,000 barrels per day with Iran by 2006.

Uzbekistan: Uzbekistan has two old refineries in the Ferghana Valley and Alty-Arik, and a new one in Bukhara, with a total refining capacity of 222,00 barrels per day. The Bukhara refinery, the first built in the CIS since the disintegration of the USSR, has a capacity of 50,000 barrels per day. It expects to increase its capacity to 100,000 barrels per day and refine both crude and gas condensate. A World Bank loan of \$250 million has been awarded to modernise the Krasnovodsk refinery.

A drop in Uzbekistan's oil production in 2000 caused Uzbek refineries to operate at less than capacity. In 2000, Uzbekistan's oil refineries refined 5,191,000 tons (104,247 barrels per day) of crude and condensate. In the same year, Uzbek refineries produced 1,546,400 tons (31,033 barrels per day) of diesel, 135,000 tons (27,211 barrels per day) of gasoline, 1331,000 tons (26,729 barrels per day) of heating oil, 329,300 tons (2,596 barrels per day) of lubricants, among other products. Uzbekistan's petroleum products are exported by road and rail to neighbouring countries and to ports on the Black Sea.

Apart from joint ventures with foreign investors, Uzbekistan is considering refinery modernisation as a crucial component of the country's strategy to attain self-sufficiency in oil. Following a tender in 1999, Mitsui of Japan has commenced a \$200-million project to expand desulphurisation capacity at the Ferghana refinery. In 1996, Texaco (US) Uzheftepererabotka formed a joint venture at the Ferghana refinery in 1996 to produce and market Texaco-branded engine, transmission, and hydraulic lubricants from local crude.

Turkmenistan: Turkmenistan has refineries at Turkmenbashi and Charjou with a total refining capacity of 237,000 barrels per day. Both refineries have started modernisation and expansion. Work is under way on a \$1.4-billion project for the upgradation and modernisation of the Turkmenbashi refinery with financing from Germany and Japan. The project is scheduled to be completed in 2004. The Seydi refinery was modernised in 1998. This enables processing of 1 million tons of sulphur oil a year.

France's Technip was given a contract in July 1999 to build a lubricant blending plant at the Turkmenbashi refinery. In April 2001, the catalytic cracking unit was launched by Technip and the Iranian NINISC at \$3000 million. The unit, with a capacity of 36,150 barrels per day, is designed to produce 920,000 tons (18,478 barrels per day) of high octane gasoline, 255,000 tons (5,120 barrels per day) of diesel, 280,000 tons (5,623 barrels per day) of heating oil and up to 345,000 tons (6,929 barrels per day) of liquefied petroleum gas annually. After the reconstruction of the refinery, Turkmenistan can produce motor oil, lubricants and polymers, rendering the import of lubricating oil unnecessary.

Kyrgyzstan: Kyrgyzstan has just one refinery in Dzhahalabad, about 150 miles south of Bishkek. The refinery, built in 1997, is run by Kyrgyz Petroleum Company, a joint venture between Kyrgyznetegaz, the state-owned oil company, and Petrolic Resources International Limited (UK). The latter bought equity from the Canada-based Kyrgoil in June 2000. The refinery, with a capacity of 10,000 barrels a day, produces heavy fuel, diesel and gasoline. But it is beset with difficulties in getting supplies of crude from neighbouring countries, especially Kazakhstan. The region's economic and political disorder has compounded the problem.

Tajikistan: Since Tajikistan does not have a refinery, petroleum products have to be imported. Uzbekistan is a major supplier of petroleum products to Tajikistan, more than 70 per cent of the latter's needs. Overall, the CIS accounts for more than 97 per cent of Tajikistan's petroleum product imports. In September 2000, an Australian firm agreed to assist Tajikistan's plan to build an oil refinery with a \$3.5 million credit. But no progress has been made.

Natural gas

Kazakhstan: Kazakhstan has natural gas reserves of something between 67-70 trillion cubic feet.¹² Yet the country's gas sector is underdeveloped because of a lack of infrastructure. Due to this, it has to import natural gas. The country's gas reserves are mainly located in the western part of the country, while its demand is generally in the south, in the industrial belt between Almaty and Symkent.

A large part of Kazakhstan's reserves is located in the Karachaganak field in the northwestern part of the country. In 2000, the Karachaganak field produced 4.6 million tons of liquid hydrocarbons.¹³

Other significant gas-producing areas include the Tengiz, Chanazhol and Uritan fields. The untapped offshore areas are also believed to contain large quantities of gas. By 2012, Kazakhstan expects to produce up to 47 billion cubic metres of gas from the Kashagan, Karachaganak and Tengiz fields. The lack of a pipeline network between Kazakhstan's gas-producing and gas-consuming areas has made the country dependent on imports.

Most of Kazakhstan's gas fields are located near the Russian gas pipeline system. But they are not connected to it. The country serves as an important transit for gas to be transported from Turkmenistan and Uzbekistan to Russia and beyond. Kaztransgaz is responsible for transporting natural gas within the country.

Uzbekistan: Uzbekistan is the third largest gas producer among the Commonwealth of Independent States (CIS), and one of the top ten in the world. Since independence, the country has increased production. Uzbekistan's gas reserves are estimated at 66.2 trillion cubic feet, with the Ustyurt region being the richest. Kandym and Garbi fields are to be explored. The government has decided to invest more in the energy sector, but returns are likely to be poor because of a saturation in the domestic market and limited export opportunities.

Uzbekistan's natural gas requires processing due to its high sulphur content. The country exports gas to Kazakhstan, Kyrgyzstan, Russia and Tajikistan through pipelines. Uzbekistan has also signed an agreement with Turkmenistan, Afghanistan and Pakistan to participate in Central Asia's pipeline project to export gas to Pakistan and possibly to India. But it depends on the political situation in Afghanistan and the relations between India and Pakistan.

Kyrgyzstan: Kyrgyzstan is heavily dependent on natural gas imports. The country's estimated natural gas reserves of 200 billion cubic feet are difficult to

tap because of the lack of funds and infrastructure. Despite this, Kyrgyzstan produced gas for the first time in 1999. Natural gas is the primary fuel in Kyrgyz cities and villages. It is also used in power generation during winter.

Tajikistan: Tajikistan has gas reserves of 200 billion cubic feet.¹⁴ Gas production, which nearly came to a halt during the civil war, increased slightly in 2000. In the same year, Tajikistan operationalised the Khoja-Sartez gas field in the southern Khatlon region. Tapping the Qiril-Tumsug deposit in the southern Khatlon region's Kolkhozobad district had led to an increase in natural gas production.

Despite the increase in production, the country depends heavily on imports from Uzbekistan. Tajikistan has a barter arrangement with Uzbekistan under which the former receives Uzbek gas in exchange for letting Uzbekistan use a rail transport corridor and a gas pipeline across northern Tajikistan that links Uzbekistan's eastern territory with its gas fields.

Turkmenistan: Turkmenistan has substantial natural gas reserves. It was a significant natural gas producer during the Soviet era. Nevertheless, the country's gas sector is not fully developed and the output dropped in the 1990s. Nevertheless, in 1999 gas accounted for 33.5 per cent of the country's exports. The output rose by 23 per cent in January-April, 2001.

Turkmenistan possesses natural gas reserves of nearly 101 trillion cubic feet.¹⁵ The largest gas fields are in the Amu-Dar'ya basin, with 50 per cent of the country's gas reserves located in the giant Daulatabad-Dommez field. The gas reserves are light and mostly contain methane, apart from helium, ethane, propane and butane. The country also has large gas reserves of 27 trillion cubic feet in the Murgab basin. In May 2000, Turkmengaz, which accounts for 85 per cent of the republic's gas production, began prospecting and exploration in a new field in Darganats in northeastern Turkmenistan. Commercial exploitation of the Gagarinskoye deposit in Zainguz Karakum will begin soon, while resumption of work in the Samantepe field on the right bank of the Amu Dar'ya in eastern Turkmenistan is being planned. Turkmengaz is also stepping up exploration in the Karakum and Kyzylkum deserts.

Russia is a key partner in developing Turkmenistan's gas reserves because most of the pipelines pass through the former's territory. But the uncertainty of international gas pricing has prevented any long-term export deal. Russia agreed to buy just 30 billion cubic metres of gas in 2000 and 10 million cubic metres in 2001.

Ukraine has become Turkmenistan's largest gas customer. In May 2001, a five-year deal was concluded. Ukraine would buy 250 billion cubic metres of gas in 2001-06 at \$46 per 1,000 cubic metres. Half the payment will be in hard currency. The bank of Amu-Dar'ya has been chosen for a new pipeline.

In 2000, with the economic crisis in the CIS, gas price and payment issues gained importance. In 1996-97, Kazakhstan and Turkmenistan began to sell gas directly to foreign companies for hard currency. The governments of the two countries have taken the following steps: (a) increasing gas processing activities, (b) research on pipeline projects from Turkmenistan through Trans-Caspian Gas Pipeline Consortium to markets in Europe and Asia, (c) inviting foreign direct investment in gas.

The decline in gas production in the Central Asian states is due to the following : (a) loss of traditional export markets because of competitive pricing, (b) Russian dominance in pipelines, (c) no attempt to develop gas fields.

Power

Kazakhstan: Kazakhstan's power generation and consumption have been on the decline since 1991. The consumption in 1992 was 96.2 billion kilowatt hours, but it dropped to 44.1 billion kilowatt hours in 1999. The main cause of the decline was a reduced demand from industry.

The republic has 54 thermal power plants, five hydroelectric power plants, and a nuclear plant at Aktau. The generating equipment are old and inefficient, and they lack modern pollution-control devices. The northern part of the country is highly industrialised, consuming about 70 per cent of the power generated. Most of the power is generated by coal-fired plants.

Due to a large number of Russian settlements in northern Kazakhstan, the Soviet authorities had dropped its electricity transmission and distribution system to connect to separate networks: to the Russian (to European Russia) network, and to the Central Asian network in the south (Kyrgystan and Uzbekistan). After independence, the state-run Kazakhstanenergo inherited the responsibility of running the republic's deteriorating power sector and its separate networks. As part of Kazakhstan's move to a market economy, in July 1997 Kazakhstanenergo brought about changes in its power generation facilities and renamed the Kazakhstan electricity grid operating company. Kazakhstan has started the process of privatisation of power plants and regional power distribution companies.

Though Kazakhstan generated enough electricity to meet its domestic demand, due to the sector's deteriorating infrastructure, it has suffered from frequent power shortages since 1992. The separation of networks has compelled Kazakhstan to be an exporter and importer in accordance with its regional needs. The imports from Russia and Kyrgyzstan account for over 10 per cent of the domestic consumption. Uzbekistan also exports a small quantity to Kazakhstan.

To reduce its dependence on expensive power imports, Kazakhstan has plans to construct new power stations. It is also trying to reconstruct and modernise the hydroelectric and thermal plants at Ust-Kamenogorsk and the Shulba hydroelectric plant. The Kazakh-Russia joint venture has been set up at Ekibastur state regional power station in the Pavlodar region, where a 350-MW generator is operational and a second one is to be overhauled. The capacity of each generator is 500-MW.

Kazakhstan had drawn up a plan to build a nuclear power station near Lake Balkash, with three units of 640-MW each. But in September 2000, the Kazakh government abandoned the project, citing cost and safety concerns, as well as adverse public opinion.

Uzbekistan: Since independence, power generation in Uzbekistan has been going down. Between 1992 and 1999, it dropped by 11 per cent. A large amount of power is generated by natural gas-powered plants. Coal-based and hydroelectric plants produce small amounts. The biggest gas-powered plants are the Syr-Dar'ya (2,000 MW) and Navoi (1,500 MW) plants, which together account for about one-third of Uzbekistan's production.¹⁵ A few coal-powered stations are located near Angren open pitmine near Tashkent. There are 23 hydroelectric plants. Charvak, the largest, supplies about 15 per cent of the country's power.

Uzbekistan trades in power with its central Asian neighbours. It has signed an agreement with Kazakhstan and Kyrgyzstan on using the region's water and energy resources. Generally, Kyrgyzstan exports hydroelectric power to Uzbekistan during summer. Uzbekistan supplies natural gas to Kazakhstan and natural gas, oil and power to Kyrgyzstan during winter. In December 2000, Kyrgyzstan committed itself to supplying 2.2 billion kilowatt hours of power in 2001. But relations between the two countries have been tense because of the Uzbek government's decision to stop gas exports to Kyrgyzstan.

Uzbekistan has drawn up a plan to increase the country's power generating capacity by attracting foreign capital to reconstruct and modernise some of its power plants. Siemens AG (Germany) has started a project to upgrade and

modernise two of the ten units at the Syr-Dar'ya power plant. There have also been plans to modernise Unit I at the Talimardjan power plant, and to construct new units. Uzbekistan is planning to complete the construction of new regional power plants.

Turkmenistan: Turkmenistan produces sufficient power to meet its needs. Despite this, the country needs to improve its deteriorating power infrastructure. Just after independence, Turkmenistan generated 12.2 billion kilowatt hours of power in 1992 and consumed 0.6 billion kilowatt hours. It has a generating capacity of 3.9 gigawatts, 99 per cent of which is thermal. Turkmenistan has the potential to export electricity. More than 3.6 billion kilowatt hours had been exported in 1999, most of it going to southwest Kazakhstan and northeast Afghanistan.

Discussions regarding greater cooperation in the energy sphere have taken place with Armenia and Iran. The focus of the discussions has been on power grids. In May 1998, Turkmenistan announced that a new 220-400 kilowatt power transmission line from Belek would be extended through Kum-Day, Madaace, and Kizyl Atrok to the Iran border. This will enable it to export power to Iran. The Armenian power grid had been connected to that of Iran in 1998.

Kyrgyzstan: Kyrgyzstan's power sector can meet the country's needs. It is also in a position to export surplus power. The country has two major power plants: (i) 1.2 gigawatt hydroelectric power plant at Toktgul, and (ii) 90.76 gigawatt thermal power plant at Bishkek. Kyrgyzstan is also planning a 6.9 gigawatt hydropower station. It is to be completed by 2010. In 1999-2000, power accounted for 11.5 per cent of the country's exports.

In 1999, Kyrgyzstan produced 13 billion kilowatt hours of power, 93 per cent of which was hydroelectric. The country exports power to Kazakhstan and Uzbekistan in exchange for oil and gas, respectively. Power demand is increasing in the country. Therefore, the Kyrgyz authorities opened a new substation at Ala-Archa on the outskirts of Bishkek in July 2000. It received substantial funding from the Asian Development Bank to upgrade the electricity grid in the southwestern and western areas of Bishkek, as well as provide uninterrupted supply of power to consumers in Bishkek and northern Kazakhstan. A World Bank loan of \$25 million was also awarded.

Outside Bishkek, the power infrastructure is deteriorating due to a lack of funds for maintenance and repair. The country has significant hydroelectric potential. The hydroelectric potential of rivers originating in the mountains is

estimated at 163 billion kilowatt hours per year. Hydroelectric power meets approximately 20 per cent of the country's primary energy requirements and accounts for nearly 20 per cent of its exports. With a rapidly growing energy demand in the neighbouring countries, Kyrgyzstan's hydroelectric power potential will become more attractive to foreign investors.

In May 2000, a few companies of Turkey signed an agreement with Kyrgyzstan for constructing a hydroelectric station (Kambar-Atinakaya hydroelectric station – II) on the Maryn. Since 1997, the World Bank has been involved in financing modernisation and upgradation of the country's hydroelectric power sector. Four hydroelectric power plants have been built with World Bank assistance.

Kyrgyzenergo, a state-owned entity and a power monopoly, is going to be restructured and privatised. Kyrgyzstan started privatising its energy companies in 2001. It is keen on announcing an international tender for the privatisation of the grid company, Severelebro. This company unites distribution networks of the three northern regions of the country.

Tajikistan: Tajikistan's generating capacity in 1999 was 4.4 megawatts. Almost the entire amount is generated at seven large hydroelectric power plants which have a combined capacity of 4,050 megawatts. Power accounted for 20 per cent of the exports in 1998-99.

Tajikistan has two power grids: a unified energy grid in the southern part of the country and a grid in the northern Soghd region. The northern part is powered by the Dayroggum hydroelectric station on the Syr Dar'ya. The Dayroggum station meets just a little more than 30 per cent of the northern region's energy needs, rendering import of power from Uzbekistan necessary. Since Tajikistan and Uzbekistan are geographically similar, their power grids are connected in the Ferghana Valley, allowing them to buy power from each other. Tajikistan imported 84 per cent of its power requirements from Uzbekistan in 2000. The Tajik government allocated \$19 million for constructing the Sangtuda hydroelectric power station.

Barg-i-Tajik is a state-owned company which controls power production, transmission and distribution in the country. Tajikistan's power infrastructure is in bad shape because of the civil war and a lack of maintenance. As a result, it has reduced its generating capacity by nearly 15 per cent. Overloads often cause transformers to break down, and most power equipment have become worn out.

The Tajik government hopes to increase its power-generating capacity and upgrade the energy grid by attracting foreign investment. But potential investors, including international financial organisations and neighbouring states, demand that Tajikistan's power sector should be privatised and the tariff policy should be changed. The Tajik government is also resuming its programme to build 15 small hydroelectric power plants. Russia's Energomash has begun delivering equipment for five plants at Andarbak, Shkere, Yemta, Langar and Yamchun.

Coal

Kazakhstan: The country is a major producer, consumer and exporter of coal. Kazakhstan was the largest coal producer in the former Soviet Union after Russia and Ukraine. Between 1992 and 1999, the country's coal production, concentrated in the Karaganda and Skibastuz basins, declined by nearly 54 per cent. The main reasons for this are customers' default, a lack of incentives to export to Russia, and short domestic demand. In the Karaganda coalfield, a strike affected production for 32 days in 1993. The production at the Ekibastuz field was also affected in 1991-92. After nearly a decade of decline, coal production is expected to increase. There are a number of coalmines in the country. These include Vostochny open castmine, Bogatyr stripmine and Severny stripmine. Despite a drop, Kazakhstan is still the largest exporter of coal to the former Soviet republics. Russia is the largest importer of the Kazakh coal, followed by Ukraine. Kazakhstan has also decided to export coal to Kyrgyzstan. In November 2000, it was agreed that Kazakhstan would provide Kyrgyzstan with 30,000 tons of coal and other forms of fuel in December 2000, in exchange for 650 million kilowatt hours of power from Kyrgyzstan in the spring of 2001.

Uzbekistan: Since independence, Uzbekistan's coal industry has been on the decline. The main reason for this is shrinking of state subsidies. Uzbekistan has estimated coal reserves of 4.4 billion tons, specially in the Angren, Baisun and Shargun deposits.

The Angren coalmine (the country's largest) accounts for about 80 per cent of the production. The equipment, which has not been upgraded since 1992, have virtually become worn out. Therefore, the Uzbek government has decided to upgrade the country's coal sector by modernising production facilities.

Kyrgyzstan: Since 1992, Kyrgyzstan's coal production has dropped precipitously, following an end to Soviet subsidies. There are 70 coal deposits in the country, the Karakeche deposit being the largest. The high extraction costs and a lack of equipment have hindered their development. In 1994-95, the government invested 30 million roubles in 12 mining companies. The country

received an assistance of \$100 million from the International Monetary Fund for coal production.

Turkmenistan: Turkmenistan has no coal reserves. Coal consumption in the country is negligible.

Tajikistan: Coal production and consumption have plummeted since independence. Leninabad and Fan-Yaghnob are the two major coal companies in the country. These were grouped under Tajikistan's state committee for industry.

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INDUSTRIAL DEVELOPMENT IN CENTRAL ASIA SINCE 1991

Chittaranjan Senapati

Central Asian republics were essentially colonies of the Tsarist Russia. It was a mere source of raw materials for the factories of the central regions of the country. The region was predominantly agricultural and technically backward. Primary processing of agricultural produce was the only industry. The erstwhile Soviet Union has some justification in claiming that the face of Central Asia was completely altered during the Soviet rule. This is because industrialisation came to Central Asia only in the 20th century. Now the central Asian capitals like Tashkent, Bishkek, Dushanbe, Askabad and Kazakhstan's former capital Almaty have become major industrial centres: mechanical engineering, light and food processing industry, machine-tool equipment manufacturing, production of instruments and a variety of consumer goods, transport, electricity and oil extraction. These had grown dramatically under the Soviet rule.

The demise of the Soviet Union created several obstacles: the Soviet legacy of economic isolation from the outside world, the lack of economic institutions for building up a market economy, production imbalance, inadequate resources for technological upgradation, the lack of a trained managerial cadre, and so on. To overcome these problems, they started the process of creating a market economy.

The industrialisation of Central Asia during the Soviet era was lopsided. Central Asian economies were monocultural with high specialisation in cotton, both planting and processing. Some writers like B Z Rumer and G Wheeler severely criticised Soviet policies for having attempted to establish a division of labour intended to perpetuate the exploitative processes of the centre over the periphery.

Post-1991 trends

From 1991, the political leadership of the Central Asian states concluded that the only way to reinvigorate the economy was through a comprehensive move towards a free market. Wide-ranging reform programmes were drawn up.

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The independence in 1991 disrupted the links of the Central Asian states with one another and with other former Soviet republics, upon which these were heavily dependent. Now there is evidence of progress by all the five countries towards decentralising their economies, expanding international linkages, intensifying efforts to diversity and increasing production and trade. The private sector partakes of less than one-half of economic activities in most of the Central Asian states, and banking (except in Kyrgyzstan) continues to be heavily state-controlled, while per capita foreign direct investment into the region (except for Kazakhstan) remains relatively low. The European Bank for Reconstruction and Development (EBRD) developed a set of transition indicators to measure progress in privatisation, trade and financial sector reforms. It indicates a mixed performance, with considerable progress needed in Tajikistan, Turkmenistan and Uzbekistan.

The pace and intensity of industrial reforms have varied widely. Unequal endowments of natural resources, varied economic structures and socio-cultural factors influenced attitudes towards reform. But Kazakhstan and Kyrgyzstan have shown a quicker pace of reforms. Prior to reforms, Kazakhstan had rich resources and a more diversified economic structure. On the one hand, Kyrgyzstan strove to overcome initial limitations, and reforms in Turkmenistan and Uzbekistan were sporadic and came as responses to crises. In Tajikistan, reforms were hindered by civil conflict.

Before 1991, despite rich natural resources and the potential for industrial development, the Central Asian states, with the exception of Kazakhstan, were mainly producing and exporting raw materials, including cotton. The share of agriculture far exceeded the share of industry in these countries.

The implementation of privatisation programmes has varied considerably. As regards small-scale enterprises, privatisation has been smooth. For larger state-owned enterprises, it is being done in a gradual manner. Privatisation is necessary for state-owned enterprises to function efficiently in a competitive environment. This will require infrastructure, development of new products, acquisition of new technologies and production processes, and application of modern managerial, accounting and marketing practices.

These necessitate a policy framework and an institutional infrastructure for mobilisation of foreign and domestic investment and optimal utilisation of available resources. A comprehensive shift to a privatised economy is likely to be achieved in the near future. Market orientation is a long-run process. But the principal objective must be to achieve a more balanced mixed economy for the immediate future.

The fundamental prerequisite for a mixed economy is the development of an appropriate legal framework comprising a comprehensive body of company laws to define various forms of business organisation, management control, contractual relationships, employment regulation, competition rules and intellectual property rights. Although some basic company laws have been adopted in the Central Asian countries, those related to ownership of property and business activities are by no means exhaustive. A review of the laws and regulations relating to industrial activities is urgently required.

The availability of technologists, managers and specialised personnel should be enhanced through the establishment of training institutes. The development of technical and managerial expertise would be supported by the inflow of foreign technology and know-how through joint ventures or technology-licensing agreements with foreign companies. However, the Central Asian countries are facing constraints in capital and technology. They need to make special efforts to promote foreign direct investment (FDI). Investment, so far, has been limited because of reluctance on the part of multinational companies and an ambivalent attitude of the national authorities.

The Central Asian countries will need to promote their business environment to increase the level of foreign investment. Although well-defined policies and procedures regarding foreign investment have already been adopted, they may need to be refined and expanded. It is essential that industrial development takes place in an environmentally sustainable manner. This will require meaningful environmental policies and programmes. A crucial need is to expand trade, investment and industrial linkages with countries outside the former USSR. All have joined international trade organisations and entered into bilateral agreements. At the same time, however, it is also important for them to retain their strong links with the republics of the former USSR, the Russian Federation in particular. In the short and medium term, these countries will remain important markets. The Russian Federation will continue to play a dominant role in the development and marketing of the region's important oil and gas resources.

Industrial output

After a few difficult years in the 1990s, the Central Asian countries saw an end to recession by 1995. This was the first sign of recovery since 1991, when they started moving towards a market economy. Except Tajikistan, other countries were stabilised by 1996 and were heading towards positive growth by 1997. The achievement lay in reforming the organisational, institutional and policy frameworks of planned economies to suit the needs of modern market economies. Turkmenistan and Tajikistan continued to shrink through 1997.

Although the USSR gave low priority to the industrial development of this region, most of the central Asian countries possess a strong industrial base with the capacity to manufacture capital goods and a wide range of light industrial products. These countries, with substantial natural resources and basic industrial skills, possess enormous potential for growth. However, this has not been achieved because of a lack of an entrepreneurial base and a market-oriented system.

The increase in industrial production has taken place because of structural changes and a growth in the number of small private firms. The private sector accounted for 52 per cent of the industrial output in Uzbekistan in 1996. Kazakhstan's metal industry is the second largest industrial sector and exporter after oil and gas. Mining of ferrous and non-ferrous metals has been rising by 33.5 per cent year-on-year. Firms, owned and managed by foreigners, account for the entire production. These firms benefit from higher levels of investment and experienced management. The copper sector is dominated by Kazakhmys, which owns Kazakhstan's two main copper smelters and accounts for almost the entire copper production. Samsung Deutschland has a 42.4 per cent stake in Kazakhmys and also manages the state's 35 per cent stake. The investment in 2000 rose to \$82 million, up by 54.7 per cent year-on-year. Similarly, previously a British steel company, Ispat, now owns troubled the Karaganda Metallurgical Kombinant. The new firm, Ispat Karmet, produced 5 million tons of steel in 2000, of which 3.4 million tons worth \$800 million were exported, about 9 per cent of the total exports. The company plans to invest \$640 million in the plant over the next five years. By contrast, Almaty Power Consolidated (APC), formerly owned by Tractebel (Belgium), has again been taken over by the Kazakhs, with a majority stake owned by KazTransGas (a wholly-owned subsidiary of KazTrans Oil). Under Tractebel, APC turned the delinquency rate of around 80 per cent into a payment rate of around 70 per cent. The company became increasingly unpopular because it insisted on timely payment of energy bills. The Kazakh government forced Tractebel to leave the country. The company sold its interests in Kazakhstan for \$100 million in 2000. The new management of APC is struggling with the same problems as Tractebel did, but not as successfully. As a result, APC's new management has cut back on its investment programme. Another problem the company faces is that utility prices were frozen after currency devaluation in April 1999. It cannot pass on any increase in costs to consumers.

Despite the Uzbek government's emphasis on creating a large domestic industrial sector, the results have been poor, with the share of industry in GDP at market prices falling from 22 per cent in 1993 to about 14 per cent in 2000. The energy sector, which has received most of the investments, has been stagnating. In sharp contrast to the government's claims of rapid economic growth, the

output in the power sector fell by 0.9 per cent in real terms in 2000. Power production had been steadily falling for five years. Fuel output rose by 0.2 per cent year-on-year in real terms, while chemicals and petrochemicals production increased by 9.9 per cent in real terms.

A sharp drop in output at the UzDaewoo car joint venture resulted in an 18 per cent year-on-year contraction in machine building production in real terms in 2000. Car production decreased by 47 per cent year-on-year in 2000. The fastest growing sector was ferrous metallurgy, which expanded by 18.7 per cent in real terms in 2000, while non-ferrous metallurgy rose by 2.8 per cent. The weaker exchange rate and import control helped boost light industry by 16.1 per cent, the food industry by 5.4 per cent and construction material production by 6.7 per cent, in real terms. In Tajikistan, the aluminium industry is driving industrial growth. The 103 per cent increase in industrial output in 2000 was attributed mainly to a 30 per cent year-on-year rise in the output of aluminium, which is produced by the Tursonzoda smelter near the Uzbek border. More than 95 per cent of the aluminium is exported. The smelter has a maximum capacity of 517,000 tons. However, production has never reached that level, and the highest output has been was 416,000 tons in 1989. The output has fallen since then and reached its lowest level in 1997, mainly because the smelter could not be upgraded due to insufficient investment. Better managerial skills and inflow of hard currency in the past few years have resulted in restructuring and an increase in production.

Gold production is also set to increase. Much of the mining is done by a Tajik-British joint venture, the Zarafshan gold company, located in the Soghd (formerly Leninabad) province. Gold mining in 2001 in Zarafshan and Darvaz (located in the southern Kulyab region) is expected to yield more than 3 tons.

According to official data, industrial production in Kyrgyzstan increased by 8.9 per cent in 2000. There was a 45 per cent year-on-year increase in industrial production in January 2001. But the most recent data reflect the disproportionate role played by Kumtor gold production and disguise the substantial difficulties faced by most of the industrial sector. Excluding Kumtor production, industrial production in January is reported to have fallen by 2.6 per cent year-on-year. Moreover, industrial output, including nonferrous metallurgy, slowed dramatically in February, resulting in a 20 per cent real decline in cumulative industrial output in January-February 2001. The industrial sector in Kyrgyzstan needs restructuring and further investment. Over half of Kyrgyz businesses are running at a loss and more than 150 plants are reported to have been idle during January 2001. The metallurgy sub-sector, one of the largest

industrial sub-sectors, recorded a 9 per cent increase in output in 2000. It reflects an increase in Kumtor production to around 21.5 tons, up from approximately 19 tons in 2000. So Kumtor production was expected to reach about 22 tons in 2001, a year-on-year increase of 2 per cent. A handful of other sub-sectors, including power and light industry, also showed strong growth. Machine building, which accounts for 10 per cent of exports, and chemicals experienced difficulties, particularly in the first half of the year. With Kumtor gold production expected to decline sharply from 2004 (and to end completely by about 2008), the Kyrgyz republic will need to make rapid progress in restructuring its industrial sector and complete the construction of new facilities.

The first quarter of 2001 shows the dominance of the industrial sector in Turkmenistan's economy. Industry accounted for 75 per cent of the GDP, according to the State Statistical Institute. Turkmenistan's real GDP and industrial output in 2000 compare favourably with those of the other members of the Commonwealth of Independent States (CIS). As with Central Asian energy producers, Turkmenistan's reliance on the energy sector for the high level of GDP growth and exports leaves the economy extremely vulnerable to external shocks, and specially to the economic cycle in Russia. The investment plan requires greater power output. The development and expansion of Turkmenistan's infrastructure continue apace. The expansion of Turkmenistan's industrial base will significantly increase the country's power requirements. Thus, Turkmenistan aimed to produce 10.15 billion Kwh of electricity in 2001, a 3 per cent year-on-year increase. In order to meet this demand, an extensive upgradation of power generating stations is under way, including those at Turkmenistan, Lebap and Dashoguz. An international tender is also being drawn up for the upgradation of the Bezmein generating station, the cost of which is to be met from the country's hard-currency reserves. Siemens (Germany) and Alcatel (France) are currently involved in upgrading the telecommunications ministry. The two companies have invested DM 53 million (\$31 million) in Turkmenistan's telecom network since 1993.

Industrial policies in Central Asian republics

Kazakhstan: Every country in Central Asia has adopted privatisation programmes from 1991-1992. Kazakhstan was the first republic of the former USSR to develop a privatisation programme, which called for divestment of all state-owned enterprises by 2000. Maintaining stability, fostering growth, implementing structural reforms, and reducing poverty were the major issues in the governments' agenda in 2000. The government maintained a tight fiscal policy, emphasising greater revenue collection and better expenditure management. Discussions began in Parliament on a new tax code. In 2000, the central bank

pursued an expansive monetary policy for stimulating growth. It reduced the refinancing rate to 14 per cent in 2000 from 18 per cent in 1999, and lowered the required reserve ratio for commercial banks from 10 per cent to 8 per cent on demand and short-term time deposits. Reforms for strengthening the financial sector were also undertaken in 2000. This included amending the law on banks and banking to bring the country's financial system more in line with international banking standards.

As for trade policy, the government converted all specific tariffs into ad valorem equivalents (except for tariffs on alcohol) to strengthen duty collections. The crude export quota was abolished. The government also submitted a fresh application for membership to the World Trade Organisation. The main policy in Uzbekistan is import-substitution, something rejected by developing countries in the 1980s. The government directs credit to priority industrial sectors so as to build up domestic production and cut imports. Most firms in priority sectors are wholly or partly state-owned. Credit and hard-currency reserves are allocated administratively – a costly, inefficient and often corrupted process. The policy of import substitution has not made local production internationally competitive or encouraged investment in non-tradeables. The monetary policy remained relatively loose, with interest rates remaining negative and growth in money supply estimated at 27.1 per cent in 2000. Bank credit increased significantly in real terms. Overall, the country's financial sector, including its equity and bond markets, is at an early stage of development. Some major steps in banking reforms have been undertaken in recent years. A government resolution in January 1999 has regulated the use of bank accounts for tax purposes. In addition, the government has created a Bank Privatisation Agency and nominated five banks for the first round of privatisation.

In 2000, the government took several steps to reduce the number of exchange rates. Current account convertibility remained one of the main policy concerns of the government in 2001. In spite of carrying out substantial economic reforms since 1991, Kyrgyzstan remains vulnerable to external shocks, as macro-economic stability has not been achieved, and privatisation and restructuring of state-owned enterprises have slowed since the government completed its small-scale privatisation programme. The growth will be hampered by the poor performance of the industrial sector (excluding gold).

In 2000, there were improvements in fiscal and monetary management and in implementing structural reforms. The government has begun prioritising its public investment projects and work on a comprehensive development framework for addressing poverty, while moving towards a market economy and maintaining

good governance. A revival of growth in light manufacturing and the agro-based industry resulted from privatising about 60 per cent of sub-sectors in manufacturing. Businesses continue to face difficulties because of deficiencies in the policy and institutional environment and weak financial infrastructure. Public enterprise restructuring has been delayed, further straining the budget. The agricultural sector showed considerable dynamism, driven essentially by private farms created after 1995. This sector could act as an engine of growth for the economy.

Tajikistan: Privatisation of medium- and large-scale enterprises and restructuring of newly privatised farms are the reforms needed for sustained growth. The government has completed its small-scale privatisation programme and now intends to privatise medium- and large-scale enterprises. However, the government will have to ensure that rent-seeking activities are minimised. There had been concern over a lack of transparency in the privatisation process, which resulted in local interest groups controlling most of the newly privatised enterprises. The authorities continued to pursue tight monetary and fiscal policies in 2000. Although Tajikistan's three-year IMF reform programme went off the hinge in early 2000 because of a loose monetary policy, strong corrective measures were taken by the middle of the year. The programme for the third year was approved in October. The tax collection improved and fiscal targets were restored. The government has committed itself to reducing poverty, and in October completed an interim national poverty reduction strategy that incorporated employment promotion, economic growth, and social safety reforms. The structural reform process, including privatisation, accelerated in 2000. The President of Turkmenistan will continue to run what is in effect a command economy, with price controls and a highly interventionist approach to policy-making. The government is pursuing a strategy of social and economic transformation. An extensive state-led investment and ambitious agricultural targets appear in the development plan. These may not be feasible, given the lack of foreign direct investment and concessional assistance, and the region-wide drought. The government's progress in privatisation has been limited. Few state-owned enterprises have been privatised, and their importance to the economy as a whole is marginal. Moreover, the private sector has limited access to foreign exchange, making structural investments – which would require foreign equipment – difficult.

The main challenges the government is facing are consolidating the budget and improving public resource management, unifying and liberalising the exchange rate, and reducing further the role of the state in commercial and productive activities. Turkmenistan has good long-term potential for developing its resource base, but realising this will require significant changes in policies and careful

management of debt and public expenditure. Diversifying the economy remains a challenge, because it remains dominated by the production and export of energy and cotton. It is, thus, vulnerable to external shocks.

Foreign direct investment in Central Asian Republics

In a transitional phase, foreign direct investment (FDI) plays a vital role. Countries in transition need substantial fixed investment, because they inherited a fixed capital stock and an inadequate infrastructure. From the macro-economic point of view, FDI complements domestic savings and contributes to investment in the economy without adding to external debt burden. Besides, it has the advantage of bringing advanced technology, management and marketing skills as well as access to export markets.

Uzbekistan received FDI of \$69 million (0.6 per cent of GDP) in 2000, a year-on-year decrease of 50 per cent. FDI accounted for just 8 per cent of the foreign capital inflow in 2000. By contrast, 86 per cent of the foreign capital inflow in 2000 was in the form of government-guaranteed debt. The foreign capital inflow in 2000 was \$733 million, down from \$1.32 billion in 1999. In Turkmenistan FDI has remained low, considering the oil and gas sector's potential to attract foreign inflow. At the end of 2000, cumulative FDI, mainly in the hydrocarbon sector, stood at the estimated \$80 million, on around \$180 per head.

The policy-makers in the Central Asian countries have been too pre-occupied with macroeconomic disequilibrium, industrial restructuring and privatisation to pay much attention to trade and foreign investment issues. Kazakhstan has been the most successful in attracting FDI during 1991-96. All the countries have sizeable current account deficits. Turkmenistan recorded the lowest current account deficit of 0.7 per cent of the GDP, followed by Kazakhstan (3.8 per cent), Uzbekistan (7.9 per cent), Tajikistan (10.9 per cent) and Kyrgyzstan (23.7 per cent) in 1996. Most of these countries, with high or recently increasing current account deficits, rely mainly on international financial institutions and bilateral donors to finance their deficits.

The liberalisation of the FDI policy regimes in the Central Asian countries, in combination with the basic institutional infrastructure for functioning market economies, had led to a remarkable increase in FDI inflow. The republics attracted sizeable FDI for its natural resources like oil and gas. Some countries seem to be gaining access to foreign banks for borrowing on commercial terms. For instance, Uzbekistan resorted to extensive short-term borrowing in 1996-97 at a relatively high cost (400 basis points over LIBOR) to deal with the balance of

payments schedule. Recently, Kazakhstan was the first country among the Central Asian states to gain access to international bond markets by issuing three-year Eurobonds of \$200 million in December 1996, and five-year Eurobonds of \$350 million in October 1997.

Portfolio investment, through stock and security markets, has been insignificant in the Central Asian republics. A large number of 'blue chip' companies' shares were scheduled to be put on sale on the Kazakhstan stock exchange early in 1998, with a total value estimated at \$2.8 billion. The policy-makers should give attention to the current account deficits, partly caused by persistent budgetary deficits. Therefore, there is a need to develop a careful mix of policies, which would bring down fiscal deficits. The Central Asian republics should increase revenue collection through new tax measures and strengthening of the administrative machinery. They should enhance the sustainability of current account deficits by raising the share of FDI in total capital inflow and side by side, reducing the size of such deficits by increasing domestic saving rates and stimulating investment in export-oriented segments of the economies.

Employment

Labour markets under the former Soviet system were characterised by certainty and security. Employment was guaranteed, wages were paid in cash and were relatively undifferentiated, and there was generous support from a comprehensive system of transfers, social security and special allowances. Now the situation has changed dramatically. A sharp drop in output caused a large increase in unemployment, and exposure to both foreign technology and managerial methods is expected to increase the productivity of domestic firms.

Conclusion

The rise of industry can be traced to the shift in domestic demand and the growing intermediate use of industrial products. Another theory of transmitted growth emphasises attracting surplus international capital by means of liberal financial and trade policies. The second argument borrows from the theory of late industrialisation, which argues that capital import makes it possible for a country to benefit from the technology of industrialised countries, provided appropriate policies exist for technology transfer and training of personnel.

But there is no single economic model – socialist, capitalist and mixed economy – that is uniformly applicable to either the region as a whole or individual states. Still, the Central Asian republics are in a state of transition from command economy. They are in the last phase of primary industrial development, and have

made dynamic movements towards industrialisation. However, the industrialisation process has not been rapid because of differences – economic, political, social and ecological.

The countries of this region are slightly reluctant to opt for the market model because of the experience of Russia. Hence they prefer a gradual approach. The economies of the Central Asian republics still rely heavily on subsidies from Moscow. The social security of the Soviet days has a tremendous appeal.

The major task is to re-structure and develop the huge stock of energy, minerals and raw materials as the first step towards industrialisation. For this, they need large amounts of foreign investments and technological collaborations. Support from the World Bank and International Monetary Fund is essential.

Industry is expected to face difficulties because reforms result in downsizing and closure of nonviable state-owned enterprises. An improved institutional and incentive structure should provide the impulse for rapid growth in industry. Recovery will depend partly on the consolidation of challenges lying ahead, despite the many successes already achieved. There is a need to enhance the capacity to mobilise domestic resources to avoid inflationary pressures.

DRUGS AND SMALL ARMS

Its Impact on Regional Security in Central Asia

Nalin Kumar Mohapatra

Despite the end of the Cold War and the subsequent disintegration of the Soviet Union, the security situation has not improved. Jose Cintra argues that the Cold War had suppressed “many potential Third World conflicts. Their geopolitical retrenchment will ensure that other conflicts will probably arise from decompression and from a loosening of the controls and self-controls” exercised by the two superpowers.¹ Similarly, Stanley Hoffmann points to “a new world disorder in the Third World. A situation far more chaotic than the world of the Cold War, when the superpowers, knowing that they could blow themselves up, restrained themselves and their allies.”²

After the end of the Cold War, the traditional notion of security has undergone a tremendous change. Today, the word “security” offers a multi-dimensional meaning. As Barry Burzan notes, the traditional notion of security, i.e. the security of a state in relation to external actors, has no relevance in recent years.³ In fact, internal factors like environmental problems, scarcity of resources, competition among various ethnic groups for these scarce resources, weak institutional structures of governance, proliferation of small arms and drugs, cross-border terrorism – problems once referred to as domestic law and order problems – have assumed greater significance in recent years and posed a challenge to national security. These problems are not confined to any one country. But when they surface in one country, the entire region feels the heat. Since developing countries are ill-equipped to handle these problems, they resort to cooperation among themselves. This has led to the growth of regional cooperation. In fact, developed countries also resort to such measures to tackle common problems.

The Central Asian states, which became independent after the disintegration of the Soviet Union, face similar problems. Unstable political structures leading to authoritarian governance, low levels of economic development, social instability due to multi-ethnic populations, closure of many heavy industries, poor infrastructure – all these create obstacles to foreign investment. These apart, there have been other problems as well: the growth of insurgency, cross-border terrorism, rise in narcotics traffic and proliferation of small arms. The growth of

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religious extremism and divisions within countries have aggravated the problems of the Central Asian countries. These have threatened their unity and integrity.

This paper discusses the proliferation of drugs and small arms in the Central Asian countries and its impact on regional security in Central Asia.

Proliferation of drugs in Central Asia

The Central Asian countries are currently facing one of the most dangerous threats to their national security, i.e. drugs production and traffic. It should be noted that even during the Soviet period, drugs were widely produced. In the near future, the Central Asian region and the adjoining Afghanistan may overtake Myanmar, Laos and Thailand (the Golden Triangle) in the production and traffic of drugs. The Central Asian countries are also facing a large number of drug-related problems. The number of drug addicts in recent years has grown. Organised groups involved in drugs traffic have equipped themselves with sophisticated weapons. A nexus between such groups and corrupt officials facilitates the process. Also, the government machinery in this region is too weak to check this flourishing business. A related problem is that profits out of drugs traffic are used to finance illegal political activities of organised criminal groups. A Russian expert points out that drug dealings in the CIS countries have very close links with crime and organised criminal groups, on the one hand, and separatist and extremist movements and their leaders, on the other.⁴

The paper discusses the production of drugs in each Central Asian republic and Afghanistan. The latter has common borders with three Central Asian republics. Also, drugs produced in Afghanistan are transported through Central Asia.

Afghanistan: The production of drugs in Afghanistan is not a new phenomenon. Even during the 19th century, many areas in the country produced drugs. During the 1980s, the Mujahedins, who were then fighting Soviet troops and the communist government in Afghanistan, took to drug production and narco-trade. In 1986, about 1,400 tons of opium were produced, accounting for 25 per cent of the world's opium output, legal and illegal.⁵

Between 1992 and 1995, Afghanistan produced 2,200-2,400 metric tons of opium every year. In 1996, the production was 2,250 metric tons. The United Nations Drugs Control Programme (UNDCP) said that in 1996, Kandahar produced 120 metric tons of opium harvested from 3,160 hectares of poppy fields. This was a staggering increase over 1995, when only 79 metric tons were produced

from 2,460 hectares. As the Taliban expanded its influence to Kabul and further north, Afghanistan's opium production rose by 25 per cent to 2,806 metric tons.⁶ According to a UNDCP report in 1999, as much as 4,600 metric tons of drugs were produced in Afghanistan.⁷

In the beginning, it was believed that the Taliban (seeker of knowledge), as followers of Islamic principles, would ban the production of drugs. But it was proved wrong. Drugs production went up after the Taliban came to power. Like other terrorist and insurgent groups, the Taliban also realised the importance of narcotics trade. It is only through money from this trade that it could sustain itself and the movement. Instead of banning the drugs trade, the Taliban legitimised the production and traffic of drugs in an Islamic garb. Abdul Rashid, the head of Taliban's anti-drug control force in Kandahar, spelt out the nature of his unique job: "Opium is permissible because it is consumed by kafirs (the unbelievers) in the West and not by Muslims or Afghans." The other "political compulsion", as outlined by Rashid, was the high poppy prices farmers received. "We cannot push the people to grow wheat. There would be an uprising against the Taliban, if we forced them to stop poppy cultivation. So we grow opium and get wheat from Pakistan."⁸

The drugs produced in Afghanistan are exported to Russia, European countries and the US. The narco-traffickers earlier took the Iran route. However, strict measures introduced by the Iranian government compelled them to follow an alternative route. In this way, they found the route through Central Asia an ideal one. The UNDCP in its report estimates that 80 per cent of Europe's heroin flows through Central Asian republics.⁹ In its 1999 report, it noted that "there is now substantial evidence that countries in Central Asia are being used as a transit point to transport from east to west illicit consignment of opiates and cannabis originating in Afghanistan and that the chemicals used for the illicit manufactures of heroin are being transported in the opposite direction".¹⁰

Tajikistan: An unstable political situation, regional and clan rivalries and a lack of effective governance in recent years provided a conducive atmosphere for production and transport of drugs in Tajikistan. According to experts, the drugs business contributes to instability because where law enforcement agencies cannot exert control, drug dealers enjoy authority and receive dollops of money regularly. Tajik drug dealers are an important link in the international network for the processing, sale and delivery of drugs.¹¹ In Tajikistan, the Gorno-Badakshan region, the Penjkent region, the Zafer Shan Valley and the Leninabad region produce large quantities of drugs.

The illegal narcotics trade follows two routes: From the mountainous Gorno-Badakhshan region in eastern Tajikistan, through the city of Osh in the neighbouring Kyrgyzstan, to Tashkent and beyond; or through southern Kyrgyzstan to Dushanbe and from there by rail, truck or air to Tashkent and beyond.¹² In 1991, the Tajik interior ministry apprehended 10.9 kg of drugs, but in 1995 the amount of drugs apprehended went up to 1,750 kg.¹³ The 'Poppy-99' operation, carried out in the Aabodiyon and Shahruz districts, led to the seizure of 125 kg of drugs near the border with Uzbekistan.¹⁴ The volume of confiscated narcotics has risen from 113 kg to 1.5 tons over the past five years. The transport directorate detained over 480 drug peddlers and confiscated 1,949 kg of narcotics from them in 1998-99.¹⁵

Addiction in Tajikistan is growing rapidly, especially among the youth. It is claimed that before 1992-93, approximately 6,000 drug users were registered in Dushanbe and 40,000 in the entire country.¹⁶ Apart from geo-climatic conditions, the close proximity to Afghanistan is an important factor which led to the development of large-scale narcotics business in Tajikistan. Corruption among public officials provides impetus to its growth.

Kyrgyzstan: In Kyrgyzstan, a large amount of drugs is produced. At the same time, it also acts as a transit for drugs traffic. During the Soviet period too, a large amount of illicit drugs used to be produced in Kyrgyzstan. However, after the disintegration of the Soviet Union, the production and trafficking of drugs have increased. In Kyrgyzstan, militant groups also support narco-trade. The major drug-producing areas are the Chu Valley and the Lesyukul region. Declining standards of living and a lack of job opportunities motivate people, especially the young, to take up this business. Around 40,000 hectares of land are under the cultivation of cannabis in Kyrgyzstan.¹⁷ Osh is emerging as an important transit point. According to a UNDCP report, from Khorog, the capital of Tajikistan's Gorno-Badakhshan province, to Osh, the 750-km highway is emerging as an important trade route for the narcotics traffic. The thriving drug trade in Osh is evident from the flourishing living style of people. A westerner living in Osh points out: "When you see so many fancy houses and cars, there are only two ways to earn that: through drugs and arms. There is not as much trafficking in arms. Every successful businessman is tied to drug trafficking".¹⁸ In 1991, 5 kg of narcotics were seized, but in 1995 it rose to 627 kg. It was reported by the Bureau of International Trade and Security that in 1997 around 700 tons of opium came from Afghanistan to Kyrgyzstan. In 1998, it went up to 3,000 tons.¹⁹ In Kyrgyzstan, according to an annual report of the UNDCP, 64 per cent of the adolescents (around 14) are in danger of being addicted, and 11 per cent of the respondents reported having used narcotics in 1995, compared to 3 per cent in 1994.²⁰

Uzbekistan: In Uzbekistan, the drug menace is as grave as in any other Central Asian republic. Due to its strategic location and communication networks with other republics, Uzbekistan is an attractive transit for drugs traffic. Although a small amount of narcotics is produced in the Samarkand region, it acts as a major route for transport of drugs. Narcotics transport takes place through a number of routes in Uzbekistan. One is from Afghanistan to Uzbekistan via the Gorno-Badakhshan region of Tajikistan, through Kyrgyzstan's Osh, into Uzbekistan's Andijan region. Another route goes directly from Afghanistan through the Uzbek city of Termez.²¹ In addition to the above, the drug-producing region of Tajikistan lies just across the Uzbekistan border. All these led to an increase in drugs traffic in Uzbekistan. It has been reported in ITAR-TASS, the Russian News Agency, that around 29 tons of drugs have been seized and destroyed since 1991.

Kazakhstan: Among the Central Asian countries, Kazakhstan occupies a prominent position in narcotics production and transport. In the southern part of Kazakhstan, huge areas of land are under narcotics cultivation. In 1997, around 500 metric tons of marijuana were cultivated in the Chu Valley in southern Kazakhstan.²² Drug cartels use Kazakhstan as a transit for traffic, which originates in Pakistan, China and Afghanistan. According to the Russian ministry of internal affairs, 93 per cent of the marijuana in the Russian drugs market comes from Kazakhstan and 85 per cent of Russia's hashish and 73 per cent of its opium are either grown in Kazakhstan or pass through it.²³ Drugs production and traffic are not only rising but also causing havoc with the Kazakh society as drug addiction among the Kazakh youth is rising. According to the ministry of interior, 17,000 drug users were brought to book in 1995. In 1996, it was 1,678.²⁴ In the first five months of 1997, security forces seized around 17 tons of drugs. This indicated a significant rise in drug smuggling in comparison to 12 tons seized in 1996. In 1997, the Kazakh health ministry booked around 27,500 drug addicts.²⁵

Kazakhstan's Drugs Control Authority noted that about 1,38,000 hectares of land in the Chu Valley were under drugs cultivation. In 1998, there were 18,579 drug-related offences. Similarly, in 1998 the drugs sale increased by around 90 per cent.²⁶ In 1999, the interior ministry (interregional department) seized over 1,000 kg of marijuana and about 40 kg of heroin. And over 260 kg of drugs were seized from January to May, 2000.²⁷

Turkmenistan: Turkmenistan is another Central Asian state plagued by drugs traffic. Smugglers use the Turkmenistan route to transport narcotics from Afghanistan to Europe. Not only is the narcotics traffic on the rise, many areas of Turkmenistan are widely used for drugs production. The Ahal Velayat region,

where the capital Ashgabat is situated, and the customs posts of Lebap are areas where drugs are cultivated.

However, in recent years in the Karkhum desert, poppy cultivation has been going on. In October 1997, the government of Turkmenistan seized around 78.5 kg of narcotics.²⁸ The nexus between high officials and drug peddlers facilitates the process. Despite governmental measures, corruption is particularly extensive in Turkmenistan.

Small arms and light weapons proliferation in Central Asia

Apart from the illegal narcotics industry, the Central Asian states face security threats arising out of a proliferation of small arms and light weapons. Drugs and small arms business are closely related.

There is no precise and formal definition of small arms and light weapons. However, according to Peter Chalk, an expert on transnational terrorism at the Rand Corporation in Washington, they refer to direct fire weapons that can be carried by an individual or on a small vehicle and that have a secondary capability to defeat light armour and helicopter.²⁹

During recent years, it is those weapons that are widely used in various conflict-prone areas of the world – in Africa, Europe and Asia. Easy availability caused large-scale smuggling of these weapons, because they can be transported from one country to another through trucks, boats and on animals like horses and camels. Being cheap, the weapons are widely used among insurgent groups. The London-based International Institute of Strategic Studies estimates the illicit global market for arms at US \$2-10 billion a year. The International Committee of the Red Cross puts a higher value on the trade at \$10-15 billion a year.³⁰

In the Central Asian context, the use of small arms and light weapons is not a recent phenomenon. Many Central Asian kings used small arms against their enemies. However, the weapons they used were not the same as weapons now. There is a wide gap in terms of quality, range and scope of operation. Ghenghis Khan was the first to use artillery (in the form of mud-and-wattle), “wall crushing” machines and catapults. Similarly, Central Asia’s great conqueror Timur the Lame formed a large army on the classical model.³¹ After the conquest of Central Asia, armies of the Tsarist Russia introduced firearms in this region. But these were out of the reach of local population, because the invading army never recruited from local population.

However, during World War I, Russia was forced to recruit from local population. But their job was to dig trenches and build defence installations.³² After the October Revolution of 1917, the Bolsheviks came to power. The Soviet government, aware of the existence of numerous radical groups operating with outside support, took strict measures to restrict possession of firearms. Although weapons were deployed in the bordering areas of Central Asia to check foreign aggression, those weapons remained under the control of Russian authorities.

However, the intervention in Afghanistan in 1979 changed the geopolitical situation of Soviet Central Asia. In order to meet the challenges posed by local mujahedeens, aided and abetted by the ISI and the CIA, the Soviet government sent soldiers from the Central Asian region in large numbers because they knew the region very well. Tajikistan, Uzbekistan and Turkmenistan share borders with Afghanistan and also a common ethnic identity. However, during the period of the intervention, arms and ammunition were needed on such a large scale that keeping their accounts became difficult. However, from this period arms and ammunition of the Soviet army were clandestinely transferred from military units to civilian population in various republics of the Soviet Central Asia. After the withdrawal of the Soviet army, the number of “lost firearms” grew.³³ And these firearms passed into the hands of radical insurgent groups.

After the disintegration of the Soviet Union, the Central Asian republics became independent and soon faced the danger of the proliferation of small arms and its impact on regional security in Central Asia.

A study of the proliferation of small arms and light weapons in Central Asia cannot be done by omitting the links with Afghanistan. During the Cold War, in order to combat Soviet troops and the communist government, China, the US and Egypt began covert aid to the mujahideen well before 1979.³⁴

The value of US weapons aid to the mujahideen went up from \$30 million in 1960 to \$250 million in 1985 with an additional allocation for anti-aircraft weapons. By 1987, it had reached \$630 million, with Saudi Arabia matching US contributions at every stage.³⁵ The US, Britain and China supplied weapons, ranging from shoulder-launched surface-to-air missiles (SAMs) to rifles. Prior to 1965, the US supplied Soviet made SA-7 and SAMs. After 1985, it supplied FIM-92, stinger SAMs and large quantities of rifles and Britain supplied Blown pipe SAMs. Seeking to limit Soviet influence in the region, China supplied the mujahideen a range of small arms.³⁶

It is not only the US, China and Saudi Arabia which supplied weapons to the mujahideen. Pakistan also reportedly supplied 40,000 rockets and 700 trucks of ammunition to its favourite warlord, Gulbuddin Hekmatyar, after August 1990.³⁷

The Soviet withdrawal and the subsequent disintegration of the USSR led to a new situation in Afghanistan. The Najibullah government could not last long. The mujahideen, who captured power after the fall of Najibullah, also fell apart. They fell to the Taliban, which captured most of Afghanistan. The warring factions in Afghanistan have equipped themselves with a number of sophisticated light weapons. In fact, weapons of origin held by the various Afghan militia till 1994 included 9mm pistol (Markov), 7.62 pistol, 7.62mm sub-machine gun (Sudayev), 7.62mm light machine gun, 82mm recoilless rifle, RG-42 anti-personnel hand grenades.³⁸ Not only Soviet weapons, small arms supplied by the US are used by Afghan militant groups.

If we study the proliferation of small arms country-wise, Tajikistan is found to be the most affected. The internal conflict which started in Tajikistan in 1992 led to a large-scale use of weapons, fuelled by supplies from Afghanistan. It has been reported that around 10,000 weapons distributed among government forces came from Moscow and Uzbekistan. On the other hand, Afghanistan was the main source of weapons for the Tajik opposition forces with prices ranging from about \$400 for an AK-47 to \$600 for a machine-gun in 1994.³⁹ Even the Russian troops took advantage of the volatile situation by selling their weapons to various opposition warring factions for huge sums of money. In recent years, most of the small arms came from Afghanistan. The Tajik branch of Islamic Renaissance Party (IRP) maintained a very close relationship with the Afghan mujahideen leaders who trained Islamic militants in their camps. Ahmed Shah Masood is known to have trained some 70,000 Tajik rebels in the Kunduz province of Afghanistan. According to KGB officials, Hekmatyar armed 400 IRP militants who participated in the demonstrations in Dushanbe in the spring of 1992.⁴⁰ This shows the role of Afghanistan in spreading Islamic fundamentalism and proliferating small arms.

The most important problem for Tajikistan is how to disarm the militant groups after the signing of the peace accord between the government and United Tajik Opposition (UTO). Both the parties to the conflict believe that the country faces danger from the proliferation of small arms and light weapons and it should be controlled. Despite the signing of the General Agreement on Peace and National Reconciliation in Moscow in June, 1997, by the government of Tajikistan and UTO, the disarmament process has not succeeded. For example, teenagers who were brought up during the years of fighting have known nothing but conflict.

Also, weapons are so widely spread that many working on farms in the countryside are engaged in “part time” fighting. This makes it impossible to register them and their arms.⁴¹

According to the United Nations Mission for Tajikistan (UNMOT), most of the UTO fighters were not gathered in the designated assembly areas, and were even dispersed for more than a year after the peace agreement was signed. The 5,979 registered fighters handed over only 1,911 weapons, most of them obsolete. The ratio of fighters to weapons was 3:1.⁴²

This shows that a large number of weapons is still in the hands of various groups and it may pose a great challenge to the security of Tajikistan. On July 20, 1998, militants killed four members of the UNMOT while they were on patrol.⁴³ During 2000, several incidents of terrorism occurred in Tajikistan. A small car bomb, planted in a vehicle belonging to the European Community Humanitarian Organisation (ECHO), exploded on July 16, 2000, in Dushanbe and injured several children.⁴⁴

The radical wing of Islamic Renaissance Party, heavily armed with AK-47 assault rifles, landmines, explosives and rockets, amasses funds through drugs traffic, mainly opium. Drugs from Pakistan, Iran and Afghanistan are transported through Central Asia.⁴⁵

Kazakhstan: Kazakhstan is also facing a threat from an illicit circulation of small arms. In March 1995, a large-scale preventive operation named ‘Law and Order’ involving about 45,000 people, many of whom were brought in to assist law enforcement officials, resulted in a seizure of weapons and 70 kg of narcotics.⁴⁶ A strong correlation can be found between an increase in the illegal drugs trade and the activities of the organised criminal groups. This increased the use of small arms. In 1995, there were 167 organised criminal groups. The groups comprised 2,500 people and possessed over 500 firearms.⁴⁷ Apart from organised mafia groups that are involved in trafficking of arms and drugs, the biggest danger that the Kazakh society faces is an emergence of radical Islamic fundamentalist groups which possess sophisticated arms and ammunition. The Chairman of the Committee of National Security, Alnor Musaev Caawly, made a statement on Islamic fundamentalism in Kazakhstan in October 1999.⁴⁸

On May 25, 2000, the Kazakhstan National Security Committee detained 16 Afghan and Pakistani nationals on their arrival at the Almaty airport from Karachi.⁴⁹ It has been alleged that Afghans and Pakistanis play a major role in spreading Islamic fundamentalism in Kazakhstan. This arrest proves the charges

made by General Musaev. In September 2000, the Kazakhstan police killed four Uighur separatist militiamen charged with the murder of two policemen. These show the danger posed by small arms in Kazakhstan. In fact, Kazakhstan is emerging as a hub of illegal transport of small arms and drugs to Europe and other CIS countries.

Uzbekistan: Uzbekistan is also not free from the danger posed by small arms. The presence of Islamic militant groups like the Islamic Movement of Uzbekistan (IMU), Hizb-at-ul-Tahrir, Islamic Renaissance Party and Adolat Islam Loshkars and their objective of establishing an Islamic state in Uzbekistan through an armed struggle led to an increasing use of small arms, partly aided by Afghanistan and the neighbouring Islamic countries. Their main areas of activities are in Namangan, Ferghana and Andijan. Religious terrorist groups became active in Namangan and killed several policemen. Islamic militants exploded bombs in Tashkent on February 16, 1999, in which 15 people were killed. The government took some measures to curb their activists. On June 21, 2000, the municipal court of Namangan sentenced 10 people to jail, their terms ranging from seven to ten years. Islamic militants also started hijacking buses. On March 30, 1999, on the Tashkent-Urgench route, a bus was hijacked, and during the operation to free the hostages three officers of the national security service and a police officer were killed.⁵⁰

The Tashkent regime, in order to check the growing militant activities in the southern district, is using long-range missiles.⁵¹ Osama bin Laden is said to have allocated \$20 million to destabilise the situation in the Ferghana region of Uzbekistan.⁵²

There was evidence that the IMU received training from the Taliban and got access to the arms market. Recently, during the US attack on Afghanistan, the leader of the IMU, Tahir Yuldosh, announced that his fighters and the Taliban would launch a jihad against the puppet government of Uzbekistan.⁵³ This shows the collusion between the Taliban and radical terrorist groups of Central Asia and their plan to establish an Islamic state.

Turkmenistan: Turkmenistan is also plagued by the problem of small arms. In January-March, 1996, national security officers and border guards at Turkmenistan ran in members of three armed groups. During these operations, 12 automatic guns were confiscated, apart from narcotics.⁵⁵ Although Turkmenistan is relatively free from the problem of Islamic fundamentalism, its location facilitates an easy transport of small arms and narcotics from Afghanistan to other CIS countries.

Kyrgyzstan: Kyrgyzstan is also not free from the danger posed by small arms. According to the Kyrgyz television report on April 19, 1997, apart from narcotics the arms trade is also gathering speed. The report said that the anti-narcotics forces seized two ground-to-air missiles, two anti-tank bombs, an anti-aircraft device, seven hand-grenades, an AK-47 gun with 100 cartridges and a 20-loader pechkin pistol.⁵⁶ In recent years, some Wahabi fundamentalist groups have also become active in Kyrgyzstan. In 1998, the Wahabis exploded two bombs in Osh, the second largest city of Kyrgyzstan. The explosion killed many people.⁵⁷ It has also been noted that drug smugglers in Kyrgyzstan have equipped themselves with sophisticated weapons, which match the capability of those with security forces. They are able to handle hi-tech small weapons, which require little maintenance cost.

Kyrgyzstan faced a challenge from Islamic extremists in August 1999 when a large number of Uzbek militants (500 to 1000) seized several Kyrgyz villages. They also took four Japanese geologists and an interpreter hostage on August 22, 1999.⁵⁸ Similarly, Kyrgyz border guards seized more than 3 tons of arms hidden near the village, Khadji-Achkhan, in Batken Oblast. The cache included four grenade launchers, several missile launchers, and a large number of anti-personal and anti-tank mines.⁵⁹

Measures to combat drugs traffic and small arms trading

As the illegal traffic of narcotics and small arms poses a danger to the national security of the nascent independent states of Central Asia, these states developed a number of mechanisms to combat the problem. In Kazakhstan, under the Deputy Prime Minister, a State Drug Enforcement Committee was formed in 1996. In Kyrgyzstan, the State Committee for Drug Control was established as the leading agency for coordinating the various aspects of drug control. In Uzbekistan, a Drug Control Committee was established in 1994 to lay down the policy to combat drugs traffic and organised crime. In Tajikistan, the security ministry investigates cases relating to drugs. The Turkmenistan government has set up an agency to control the illegal proliferation of drugs.

However, the Central Asian states' efforts to curb the proliferation of small arms and drugs have not achieved the desired results. Their organisations are not equipped to challenge the terrorist groups. This led to the growth of cooperation on the part of Central Asian states with China and Russia also involved, since they too face the danger of narco-terrorism and the growth of Islamic fundamentalism. The third Shanghai Five Summit was held in Almaty in July, 1998, involving Kazakhstan, Kyrgyzstan and Tajikistan, besides China and Russia.

The joint declaration was: “The parties will take steps to fight against international terrorism, organised crimes, arms smuggling, trafficking of drugs and narcotics and other transnational criminal activities.”⁶⁰ At the fifth meeting in Dushanbe in July 2000, they reiterated their pledge.⁶¹

Similarly, the defence ministers signed a “joint communique” in the Kazakh capital, Astana, on March 30, 2000, where all sides agreed to study the feasibility of military confidence-building measures and ways to strengthen co-operation between the border defence departments of the five countries and crack down on trafficking of drugs, smuggling of arms and other cross-border criminal activities; to hold joint exercises on preventing dangerous military activities and crack down on international terrorism.⁶² The Presidents of Kazakhstan and Uzbekistan, during the Central Asian Summit in Tashkent on April 22, 2000, agreed to jointly combat organised criminal groups involving in trafficking of drugs and small arms.⁶³

At the Central Asian security summit, held in the Kyrgyz capital, Bishkek, on August 22, 2000, the Presidents of Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and a special envoy of President Putin, called for joint action in the fight against terrorism, political and religious extremism and transnational organised crimes.⁶⁴ The Uzbek Forum on Security in Central Asia, which held a meeting on October 27, 2000, expressed grave concern over international terrorism. The US is supporting Central Asian countries in their fight against small arms and drugs. Wendy J Chamberline of the US State Department (principal deputy assistant secretary of state for international narcotics) in a seminar declared that the US intended to allocate \$50,000 to enable Tajikistan to tighten control of its border with Afghanistan.⁶⁵

Poverty and unemployment are, to some extent, responsible for the growth in narcotics trade. As most of the people in Central Asia are poor, the organised criminal groups take advantage of this by luring them into drugs trade and act as a conduit. Women are also involved in it. The emergence of many fundamentalist radical Islamic groups in Central Asia, aided and abetted by Pakistan, Afghanistan and Saudi Arabia led to the growth of small arms. These Islamic fundamentalists are trying to achieve their objective of establishing Islamic states in Central Asia by challenging the existing political authorities.

Nonetheless, there are certain steps that should be taken: targeting suppliers of drugs and small arms and tracing their origins, concluding and enforcing multilateral agreements on banning small arms, strengthening regional customs, law-enforcement and intelligence structures and increasing cooperation, improving

irrigation facilities in the arid areas of Central Asia, and creating employment opportunities.

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BOOK REVIEW

India Infrastructure Report 2002

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In India the government has provided the basic infrastructure: energy, transport and telecommunications. But the costs of the provisions of these infrastructural services have been enormous. The service quality has also deteriorated over the years. Despite a policy stance in favour of privatisation, private sector investment in infrastructure services is, as yet, negligible partly due to a lack of regulatory clarity and policy risks. The regulatory system for public goods (services) remains rudimentary, and non-existent in many cases. Policy changes are unpredictable. It is necessary, therefore, to put in place an appropriate framework of governance to avoid the pitfalls of monopolistic exploitation of consumers.

India Infrastructure Report 2002 has timely focused on this fundamental aspect of economic reform, namely, governance for commercialisation. In 45 research papers spread over 10 sections, contributed by 46 experts, it covers many aspects of governance relating to commercialising infrastructure. The papers cover a wide range of issues: from regulatory and contractual frameworks to problems related to environment and rehabilitation, from the social and political situation in general to sector-specific descriptions of institutions. The focus in most papers is on identification of constraints that stand in the way of the development of infrastructure and how they can be overcome.

In a thought-provoking paper, Sebastian Morris points out that in many cases problems of governance arise on account of faulty economic policies. In such cases, a failure of governance may be erroneously regarded as the cause of poor performance. Therefore, addressing governance directly without at the same time creating the political and economic conditions will be futile. Correcting the failure of governance in these cases lies in policy and politics. Morris brings out the current failures in governance that are actionable and suggests that they should be corrected largely through changes in economic policies and institutions.

Two main problems of infrastructure development are environmental concerns and acquisition of land. Sebastian Morris, Keshab Das, D'Mallo and Delhi Janwadi Addikar Munch discuss different aspects of these problems. They

rightly emphasise that at the root of governance in both cases is the nature of the state. In the name of protecting the environment and development of infrastructure, industrial workers and slum-dwellers are evicted, denying them rehabilitation. Negative externalities are invariably borne by weaker sections. The authors' pessimism in such cases is not difficult to understand. They justifiably take the position that it is capitalistic development which is at root of this oppressive behaviour of the state.

In this context, Morris emphasises that good governance should not only be what is conventionally understood as fair, transparent and accountable, but as the preface of the Report states that "governance should encompass the creation, protection and enforcement of certain basic rights such as rights to land, clean air, information, and to earn a livelihood". East Asia, which began to industrialise late, has been able to avoid the negative externalities which inevitably impact infrastructure development in India, through an egalitarian income distribution based on land reforms. So, the report states: "We started out on the wrong foot in not ensuring basic endowments to all, that is the source of the problem. So today praxis, whether arising out of guilt, or hope and confidence, demands the assurance of endowments to those without it, to bring them into the market". This radical view is in stark contrast to the present-day view that regards privatisation and market as the key to economic growth.

The fact that infrastructural projects, especially dams, have attracted public interest litigation implies that those affected are not being treated fairly. Structural reforms should therefore encompass the process of land acquisition for infrastructure projects. The colonial Land Acquisition Act needs to be replaced with one that clearly defines the public purpose, creates a space for negotiated settlement, and involves the displaced in the project.

Kothari suggests that the problem of landlessness in urban areas can be solved by transferring development rights. This allows public services to come up quickly in large cities where there are considerable difficulties of acquiring land due to asymmetry in valuation and contingent titles – illegal squatters, slums, etc. Nandini and Prem Kalra suggest that recognising the *de facto* rights of slum-dwellers in Mumbai's railway slums can be a reasonable solution to the development of railway services in Mumbai. Slum clearance, combined with the transfer of development rights, can be a potent force if there is clarity on the objective and functions of a city in the context of infrastructure development.

Rath and Ramakrishnan show that National Thermal Power Corporation's record of resettlement and rehabilitation (R&R) is far better than that of government parastatals because of a certain degree of professionalism, seriousness about the law of the land, and an ability to afford the costs of R&R. However, their management of ash pits is still below the mark. In any case, the authors stress the need for professional bodies, working on a non-profit basis, to carry out R&R on behalf of companies and enterprises investing in infrastructure. There is, of course, need for involving people affected by projects.

Anant and Jaivir Singh discuss the implications of overarching constitutional frameworks for regulation and governance in the context of commercialisation of infrastructure. In India, a regulator must heed the voice of the people and take equitable decisions. A correct structuring of a regulatory authority and appropriate appointments are crucial for good governance. Or else, it can lead to disastrous consequences. However, there is still a dilemma: How much of judicial authority should be vested in a regulator? If regulators are over-active, a fragmentation of the court system may inhibit the development of a unified legal system. Moreover, courts are the best in hearing out competing claims to make a ruling, *prima facie*, but not in making a choice.

Joshi and Anuradha explain the existing legal frameworks in several sectors and point out their limitations and constraints that stand in the way of private participation and ownership of infrastructure. They bring out the features of an ideal framework of legislation relating to commercialisation of infrastructure.

Abha Singal Joshi shows that the Freedom of Information Bill has many deficiencies. In spirit, it denies information because there are too many blanket exclusions, too many occasions where public interest can be used to deny information and non-inclusion of private companies which have a public aspect. In fact, the Shourie Committee did not adhere to the practices of legislation that inspire confidence. Few people outside the government and the bureaucracy were contacted and issues were not resolved before the draft was drawn up. There is no provision in the Bill for effective remedy when the government denies a particular piece of information. In the fitness of things, consumer interests need to be defined, community involvement needs to be ensured, and performance of infrastructure services should be effective and regulated. Jaynath Varma emphasises that private entrepreneurship is crucial for private infrastructure. But therein hangs the tale. How should the large risk for large profits be transferred

without regulation? There is, of course, the danger of excessive and premature regulation as well as of light supervision. How to strike a balance needs to be addressed.

The Report has provided a good exposure to the problems associated with governance in the context of commercialisation of infrastructural services. But it is short on offering an appropriate design of regulation for different services. The focus on land acquisition is apt but the problem of ensuring quality services at reasonable prices has eluded the expert group.

Dalip S Swamy