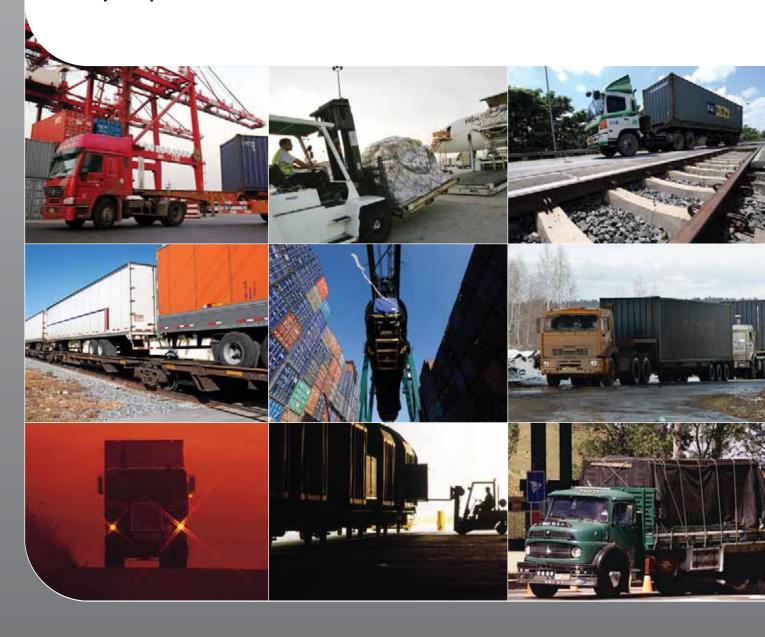


## **Transport and Trade Logistics Development Strategies for CAREC**

A Synopsis of Nine ADB Studies





# Transport and Trade Logistics Development Strategies for CAREC A Synopsis of Nine ADB Studies

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Asian Development Bank

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## **Abbreviations**

ADB – Asian Development Bank

CAREC – Central Asia Regional Economic Cooperation

EU – European Union

GDP – gross domestic product

IMAR – Inner Mongolia Autonomous Region

NGO – nongovernment organization PRC – People's Republic of China

TA – technical assistance

TIR - Transport Internationaux Routiers

TRACECA – Transport Corridor Europe–Caucasus–Asia XUAR – Xinjiang Uygur Autonomous Region

#### Note

In this report, "\$" refers to US dollars.

### **Foreword**

The synopsis summarizes the results and recommendations of the nine studies supported by the Asian Development Bank (ADB). These studies help define more efficient and cost-competitive strategies for the transportation and logistics sectors of the Central Asia Regional Economic Cooperation (CAREC) member countries. Efficient and cost-competitive transportation and logistics services will stimulate economic activity and promote regional cohesion. Increased efficiency will support the full realization of benefits from increased transit between the dynamic, growing economies of East and West.

A number of substantial challenges exist in the CAREC countries. They are landlocked and have varied terrain, thus making the construction of infrastructure and logistics facilities more expensive and difficult. They require substantial investment to meet infrastructure shortfalls and have unsupportive systems and policy environments that increase costs and delays in the transport of goods within and across borders. Finally, technical and managerial skills are limited. These factors all contribute to decreased efficiency and effectiveness of transport and logistics services.

To address the challenges faced by the CAREC countries, it is critically important that they be unified in purpose and action. Consensus must be forged on the seamless movement of cargo among countries. Clearly, a general atmosphere of cooperation needs to prevail if the whole region is to reap the benefits of international trade. ADB hopes that this publication will renew and strengthen cooperation and unity in the region.

These studies are in line with ADB's new approach under Strategy 2020 and its core areas of operations. The information generated in these reports will contribute to ADB's focus on knowledge products as one of the main drivers of change. It is also part of the efforts of the East Asia Department to develop appropriate knowledge products that will support ADB's mission of reducing poverty in Asia and the Pacific.

ADB staff contributions from the Financial Sector, Public Management, and Regional Cooperation Division, East Asia Department and the Department of External Relations are greatly acknowledged. We also acknowledge the efforts of consultants who conducted primary research in the field. These combined efforts have resulted in a timely and significant contribution to trade facilitation and logistics in the CAREC region.

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Klaus Gerhaeusser Director General East Asia Department

## The CAREC Countries at a Glance

Afghanistan			
Country size (km²)	647,500		
Population (million)	24.5		
GDP per capita	\$457		
Export	\$454 million		
Import	\$3 billion		
Length of roads (km)	26,700		
Length of rail (km)	(0)		

Kazakhstan			
Country size (km²)	2,724,900		
Population (million)	15		
GDP per capita	\$11,416		
Export	\$51.9 billion		
Import	\$44.7 billion		
Length of roads (km)	83,720		
Length of rail (km)	14,205		

Mongolia			
Country size (km²)	1,564,116		
Population (million)	2.8		
GDP per capita	\$3,541		
Export	\$852 million		
Import	\$1 billion		
Length of roads (km)	49,077		
Length of rail (km)	1,810		

PRC, Xinjiang Uygur			
Country size (km²)	1,646,800		
Population (million)	20.5		
GDP per capita	\$1,882		
Export	\$7.1 billion		
Import	\$1.9 billion		
Length of roads (km)	145,190		
Length of rail (km)	1,371		

Azerbaijan			
Country size (km²)	86,600		
Population (million)	8.63		
GDP per capita	\$8,000		
Export	\$21 billion		
Import	\$6 billion		
Length of roads (km)	29,000		
Length of rail (km)	2,100		

Kyrgyz Republic			
Country size (km²)	199,900		
Population (million)	5.3		
GDP per capita	\$2,200		
Export	\$1.6 billion		
Import	\$3 billion		
Length of roads (km)	34,000		
Length of rail (km)	423.5		

PRC, Inner Mongolia			
Country size (km²)	1,183,000		
Population (million)	23.9		
GDP per capita	\$1,367		
Export	\$1.6 billion		
Import	\$2.3 billion		
Length of roads (km)	75,000		
Length of rail (km)	7,436		

Tajikistan			
Country size (km²)	143,100		
Population (million)	7.32		
GDP per capita	\$357		
Export	\$909 million		
Import	\$1.33 billion		
Length of roads (km	30,563		
Length of rail (km)	950.7		

Uzbekistan			
Country size (km²)	447,400		
Population (million)	28 million		
GDP per capita	\$2,629		
Export	\$8.99 billion		
Import	\$5.23 billion		
Length of roads (km)	83,000		
Length of rail (km)	4,400		

Sources: Various consultants' reports.

ADB. 2008. Key Indicators for Asia and the Pacific.www.adb.org/Documents/Books/Key\_Indicators/2008/Country.asp

World Bank. World Development Report. 2009. http://ddp-ext.worldbank.org/ext/DDPQQ/member.do?method=getMembers\$userid=1&queryId=135

## Introduction

The impetus for the member countries of the Asian Development Bank's (ADB) Central Asia Regional Economic Cooperation (CAREC) program¹ to develop their respective transport and logistics sectors is great. Doing so would enable them to take full advantage of their being transit countries through which goods pass between Asia and Europe and, for some of them, between North Europe and South Asia and the Middle East. It would also give them one of the most important means to effect social, political, and economic integration and to rebuild weakened institutions and replace obsolete ones in the wake of the dissolution of the Union of Soviet Socialist Republics (USSR) to which most of them belonged. Finally, it would stimulate economic activity within their respective borders, thus enabling them to sustainably address poverty and ensure a better way of life for their citizenry.

The CAREC program has been providing focused support to the development of transport and logistics in the region. The program, which was established in 1997, seeks to improve living standards and reduce poverty in CAREC countries through more efficient and effective regional economic cooperation, mainly in the fields of transport, trade policy, trade facilitation, and energy.

As part of this support to the region, the ADB CAREC program provided technical assistance for nine studies to analyze the transport and logistics sectors in the CAREC countries and to define the measures needed to make transport and logistics more efficient and cost competitive in each country and in the region as a whole. The results of these studies on Afghanistan, Azerbaijan, Mongolia, Kazakhstan, the Kyrgyz Republic, the Inner Mongolia and Xinjiang Uygur autonomous regions of the People's Republic of China (PRC), Tajikistan, and Uzbekistan, are summarized here.

For purposes of this report, CAREC countries refer to Afghanistan, Azerbaijan, Kazakhstan, the Kyrgyz Republic, Mongolia, the People's Republic of China (in particular, the autonomous regions of Xinjiang Uygur and Inner Mongolia), Tajikistan, and Uzbekistan.

## Methodology

#### **Team Composition**

A team of experts was engaged by ADB to conduct the study for each CAREC country. Each team was composed of one international consultant and one or several local consultants. The international consultants introduced best practices and international benchmarks, in the process enabling the teams to have international perspective on the current national situations. The local consultants gathered data and provided local perspective and administrative support.

#### **Period of Study**

A study typically took from 6 to 10 months to complete. In certain studies, the international consultant or consultants visited the country three times for a minimum period of 2 weeks per trip, while the rest involved a single but longer trip of over a month. The rest of the studies' implementation period was spent for further research, data analysis, and report preparation.

#### **Sources of Information**

Each team gathered primary and secondary data through various means. Primary data were generally obtained through face-to-face interviews with representatives of relevant government agencies, freight forwarder and road carrier associations, private companies, and nongovernment organizations. Phone interviews were resorted to when a face-to-face meeting was not possible. Field visits to relevant sites, mainly transport and logistics facilities, and border-crossing points, were also a vital source of primary information and provided valuable insights on the state and operations of such sites. Secondary data were gathered from government agencies, official online resources, and public libraries. In some cases, the team also visited other donor organizations such as the United Nations Conference on Trade and Development and the United States Agency for International Aid for information on development projects. The common sources of information were the following:

- (i) ministries of transport and communications;
- (ii) ministries of trade and industry (or commerce);
- (iii) ministries of finance (specifically, customs departments);
- (iv) chambers of commerce and industry;
- (v) various associations of transport and logistics service providers, such as freight forwarders and road carriers; and
- (vi) ADB resident mission offices.

Methodology

#### **Deliverables**

Each team submitted an inception report, a midterm report, a final report, and a set of presentation materials on the study results. The inception report was submitted after the first trip, the midterm report after comments by ADB officials were considered, and the final report and presentation materials after all revisions were made. The main highlights of the studies were presented in ADB CAREC workshops. Most of the findings of the studies were presented in the Workshop on Trade Logistics Development for the CAREC Region, which was held 2–4 September 2008 in Tashkent, Uzbekistan.

## Transport and Logistics in the Central Asia Regional Economic Cooperation Region

#### **Profile of the Region**

#### Geography, Population, Natural Resources, and Economy

The CAREC countries, together with the Inner Mongolia and Xinjiang Uygur autonomous regions of the People's Republic of China (PRC), occupy more than 8.4 million square kilometers (km²) of desert and semidesert plains and grassy steppes punctuated by imposing mountains and mountain ranges and a few fertile valleys. As some of the world's most sparsely populated countries and territories, their total population of about 135 million is spread over a vast area for an average density of 15.5/km². Among them, population densities vary from 99.1/km² and 61.2/km² for Azerbaijan and Uzbekistan to 5.9/km² and 1.7/km² for Kazakhstan and Mongolia (Table 1).

Table 1: Total Area, Population, and Population Densities of Central Asia Regional Economic Cooperation Countries and Territories, 2007

Country or Territory	Area (m²)	Population	Population Density (no./m²)
Afghanistan	647,500	24,500,000	37.84
Azerbaijan	86,600	8,580,000	99.08
Kazakhstan	2,717,300	16,000,000	5.89
Kyrgyz Republic	198,500	5,200,000	26.20
Mongolia	1,564,116	2,640,000	1.69
Tajikistan	143,100	7,130.000	49.83
Uzbekistan	447,400	27,400,000	61.24
IMAR, PRC	1,183,000	23,600,000	19.95
XUAR, PRC	1,660,000	19,000,000	1.45
Total	8,647,516	134,050,000	15.50

IMAR = Inner Mongolia Autonomous Region; PRC = People's Republic of China; XUAR = Xinjiang Uygur Autonomous Region.

Source: ADB. 2008. Key Indicators for Asia and the Pacific. www.adb.org/Documents/Books/Key\_Indicators/2008/Country.asp

These countries and territories are endowed with basically the same natural resources. Most are rich in mineral resources, such as coal and copper, and in petroleum and natural gas. On the strength of the accelerated exploitation of these resources and the increases in their prices, the region's economies have seen remarkable growth over the past several years. From 2003 to 2007, they experienced double-digit gross domestic product (GDP) growth rates, ranging from 31.9% for Azerbaijan and 26.8% for Kazakhstan, to the more modest but still remarkable 15.3% for Afghanistan and 12.4% for the Kyrgyz Republic (Table 2). It must be noted that these increases come from very low bases.

Almost all of the CAREC countries have had dramatic upheavals in their respective recent histories, and consequently in their economies. Azerbaijan, Kazakhstan, the Kyrgyz Republic, Tajikistan, and Uzbekistan gained their independence when the Union of Soviet Socialist Republics (USSR) disintegrated. As members of the USSR, they had little opportunity to trade outside of the Soviet bloc. Their economies were also characterized by central planning, fixed pricing, and little flexibility in resource allocation. They now face the challenges of a rapid transition to market-driven allocation of capital and resources, and of competing in international markets.

Mongolia is also in the process of adjusting to the disintegration of the USSR, which had provided it with substantial economic support, and a major market for its exports and source of its imports. The economic dislocation caused by the loss of support and markets has been alleviated by the boom in its mining industry with the discovery and exploitation of large coal, copper, and gold deposits.

Afghanistan, for its part, is attempting to recover from centuries of war and civil strife, which included, in recent years, the USSR invasion, the 10-year Afghanistan war between Muslim Afghan guerillas and Russian and Afghan government forces, and the civil war that followed the withdrawal of Russian troops in the early 1990s and the ousting of the Taliban from power. All these wars and civil strife have devastated infrastructures, institutions, and the economy, which Afghanistan, with assistance from the international community, is trying to rebuild.

Table 2: Growth Rates in Gross Domestic Product, Exports and Imports, 2003–2007

	GDP GR	Exports GR	Imports GR
Afghanistan	15.30	33.25	9.50
Azerbaijan	31.89	18.52	16.81
Kazakhstan	26.84	29.87	31.28
Kyrgyz Republic	12.34	14.29	27.51
Mongolia	21.40	25.91	22.06
Tajikistan	18.91	12.99	23.66
Uzbekistan	17.65	19.29	12.05
Total	21.81	25.91	23.83

GR = growth rates, GDP = gross domestic product.

Source: World Bank. 2009. World Development Report. www.ddp-ext.worldbank.org/ext/DDPQQ/ member.do?method=getMembers&userid=1&queryId=135 (various countries) Transport and Trade Logistics Development Strategies for CAREC: A Synopsis of Nine ADB Studies

#### International Trade

International trade for CAREC countries and territories is characterized by rapid growth, undiversified exports, similar trading partners, and lack of complementary trade items that limits actual and potential intra-regional trade.

From 2003 to 2007, CAREC exports grew impressively, by an annual average of 21.8%. The most notable of the export performances were those of Afghanistan (33.3%), Kazakhstan (29.9%), and Mongolia (25.9%). Exports from the region are primarily petroleum, coal and natural gas, and metals—mainly iron, steel and copper.

Imports to the region during the same period also grew by impressive rates, increasing by an average of 23.8%. Kazakhstan led the group, achieving an annual average rate of 31.3%. It was followed by the Kyrgyz Republic and Tajikistan whose imports increased by 27.5% and 23.7% per year, respectively (Table 2). The region's imports consist mainly of finished goods such as industrial products (e.g., machinery, equipment, and construction materials) and consumer goods (e.g., automobiles).

The Russian Federation continues to be a very important trading partner for CAREC countries and territories, being both a major destination for their exports and a source of processed products and technological equipment. This is not surprising considering that these countries were part of the Soviet bloc just two decades ago. However, there are more destinations competing for the region's exports. Developed economies like the European Union (EU), Japan, and Switzerland have become important markets. Nonetheless, the trading relationships established by most CAREC countries are mutually beneficial, with top import sources also being top export markets, as observed in Afghanistan, Kazakhstan, Inner Mongolia Autonomous Region (IMAR) and Xinjiang Uygur Autonomous Region (XUAR) of the People's Republic of China (PRC), and Tajikistan.

The region's economic structures and development stages are so similar that there is little potential to increase trade substantially among the CAREC countries and territories. Many compete for the same export markets and produce commodities that have little value to other countries in the region. In regions where there is robust trade, the countries are at different stages of growth and their strengths complement each other, so that the factors of production can be optimized. In the North America Free Trade Area, cheap labor in Mexico, capital in the United States (US), and abundant raw materials and land in Canada imply synergy in trade. When such synergy does not exist, there will be limited trade potential.

The unrealized revenue because of limited intra-regional trade could be compensated by the region's strategic location near three of the four "BRIC" countries. Manufactured products from the PRC can be shipped to the region, while commodities and raw materials from the region can find markets in the PRC. Furthermore, the PRC is actively seeking new export markets for its manufactured goods in the EU which, in turn, is seeking markets in the PRC and the rest of Asia for its own manufactured goods. The new "silk road" that traverses from the PRC across Central Asia, to the Caucasus, Eastern Europe, and finally Western Europe will benefit the CAREC countries and territories. Reaping the benefits of this reopening of the "silk road," however, will depend on the economic competitiveness, efficiency, and security of transport in the region.

<sup>&</sup>lt;sup>2</sup> BRIC is a term coined by Goldman Sachs to refer to Brazil, Russia, India, and China, which are among the most dynamic and fastest growing economies in the world.

#### **Issues and Challenges in Trade**

In the CAREC region, the transport of goods is impeded by geographical factors and deficiencies in physical infrastructure, inefficient and unsupportive policies and procedures, and challenges in the logistics sector.

#### **Geographical Factors**

**Landlocked countries**. All the CAREC countries and XUAR and IMAR are landlocked. This impedes their ability to integrate with world markets as more than 80% of international trade is transported by sea. Aside from Azerbaijan and Mongolia, CAREC countries need to transport their exports and imports more than 3,000 km to and from the nearest seaports (Table 3). Transit time and cost increase as distance increases.

**Presence of enclaves.** During the Soviet era, boundaries in Central Asia were redrawn, creating enclaves—parts of a country located deep in the territory of a neighboring country. At times, the roads and railways of one CAREC country cut through these enclaves. For instance, goods being transported westwards by rail from the PRC to Uzbekistan will need to pass through the Kyrgyz Republic and move through Kanibadam and Khujhand in the northern part of Tajikistan, before entering Uzbekistan. Border crossing results in delays and additional costs.

The above problems are geographical in nature and little can be done to correct the situation. Therefore, attention should be focused on improving physical infrastructure, policies and procedures, and the performance of the logistics sector.

#### Deficiencies and Inefficiencies in Physical Infrastructure

**Challenges in rail transport.** Rail transport is the most economical mode of transport over long distances.<sup>3</sup> In terms of cost per km travelled, it is cheaper than road transport. However, in Central Asia, shippers still use road transport because rail transport is not flexible and the rail system in the region is unreliable. Rail bookings often need to be made a few days, or in the case of Mongolia, up to 30 days in advance. In contrast, a delivery truck can be arranged within a day.

Table 3: Distance of Landlocked Central Asia Regional Economic Cooperation Members to Closest Seaport

Country	Distance (in km)
Azerbaijan	800
Kazakhstan	3,750
Kyrgyz Republic	3,600
Mongolia	995
Tajikistan	3,100
Uzbekistan	2,950

Source: United Nations Economic and Social Commission for Asia and the Pacific Secretariat.

<sup>&</sup>lt;sup>3</sup> Typically, road transport is competitive with rail transport for distances within 750 km. For longer distances, rail transport is more economical.

Moreover, rail networks are not extensive enough to cover entire territories. Generally, the rail densities in CAREC do not compare favorably with the 0.81 km/100 km² of the PRC, much less with the 2.46 km/100 km² of the US (Table 4). A delivery truck is thus always needed to cover the "last mile," especially when door-to-door delivery is required. Another serious problem is the severe shortage of rail wagons and the attendant long waiting times without any assurance that one's cargo will eventually be loaded. This is aggravated during peak seasons when there is a surge in volume for certain commodities, or when there is an unbalanced trade pattern. This is observed in XUAR, where the demand for eastbound rail wagons toward the other provinces in the PRC is always high due to the low volume of goods, and therefore fewer rail wagons that move westbound back to XUAR through the Chinese Lanxin railway.

The rail systems in CAREC also face shortages in equipment and rolling stock. For instance, the Kyrgyz Republic depends heavily on rail wagons from Kazakhstan and Uzbekistan. Rail platforms and locomotives are old and need replacement. Most of the locomotives in Azerbaijan are very old, and more than 50% of the freight wagons are no longer usable. The shortage of rolling stock limits the effectiveness of rail transport. With all available rolling stock already being used at full capacity, and without additional railways, waiting time for rail wagons and rolling stock becomes longer and more unpredictable, creating an unstable supply chain.

**Challenges in road transport**. In CAREC countries and territories, as in the rest of the world, road transport is preferred for short-haul transport, or when flexibility is needed. Because of all the limitations of the railways in the region, road transport is the preferred mode of transport even for long distances and accounts for a significant portion of the freight transported among the countries and territories of the region and between the region and the rest of the world. Adding to the attractiveness of road transport, especially in the cross-border transit of goods, is the establishment of regional and international road transit programs, such as the Transport, Internationaux Routiers (TIR) Convention.

Table 4: Rail Densities in Central Asia Regional Economic Cooperation Countries

<b>Country or Territory</b>	Country or Territory Rail Length (km)		Density (km/100 m <sup>2</sup> )
Afghanistan	0.0	647,500	0.00
Azerbaijan	2,100.0	86,600	2.42
Kazakhstan	14,205.0	2,717,300	0.52
Kyrgyz Republic	423.5	198,500	0.21
Mongolia	1,810.0	1,564,116	0.12
Tajikistan	950.7	143,100	0.66
Uzbekistan	4,400.0	447,400	0.98
IMAR, PRC	7,436.0	1,183,000	0.63
XUAR, PRC	1,371.0	1,660,000	0.08

IMAR = Inner Mongolia Autonomous Region; PRC = People's Republic of China; XUAR = Xinjiang Uygur Autonomous Region.

Source: Various consultants' reports.

Note: The data on railway length is correct at the time of writing. Since then, there have been no major changes to the rail length, although many countries are in the process of planning rail extensions.<sup>4</sup>

<sup>&</sup>lt;sup>4</sup> For instance, Kazakhstan is planning a 980 km rail connection between Shalkar to Beineu, which will serve the mining industries near the Aktau region. However, rail construction is a time-consuming and expensive endeavor; thus, it is unlikely that the ratios in this table will have dramatic changes in the near future.

Road transport in CAREC has several limitations. First, the length of roads required in Central Asia is substantial, considering the large areas that need to be covered. This is apparent in the road length/area ratios of the Xinjiang Uygur and Inner Mongolia autonomous regions of the PRC, as well as Kazakhstan and Mongolia (Table 5).

The surface condition of CAREC road networks is deteriorating rapidly from overuse by delivery trucks that are often overloaded to maximize revenue. For instance, it is reported that 200 km of road are lost each year in the Kyrgyz Republic due to excessive wear and tear. Roads in elevated territories deteriorate even faster due to cold weather conditions. The Pamir regions in Tajikistan have this problem, as the average altitude is 4,000 m above sea level. The deterioration of surface condition in the region's road systems also results from the lack of resources for road maintenance. By international best practice, 1% of government revenues ought to be allocated for this purpose, but the resources actually allocated are woefully short in most countries, especially Afghanistan, Tajikistan, Mongolia, and the Kyrgyz Republic.

There is also a shortage of good quality roads in Central Asia. Although there are Class I and Class II road sections in IMAR and XUAR, the same cannot be said for the other countries. Kazakhstan has virtually no Class I and Class II roads, while Mongolia has only about 3.8% of its roads paved.

**Challenges in transloading at borders**. Transloading is required for rail cargo entering and leaving the borders of the PRC. The CAREC countries use the 1,520 mm railway gauge standard used in the Russian Federation, while the PRC uses the international standard gauge of 1,435 mm used by 60% in the world. Hence, there is a need to transload cargoes from Kazakhstan, the Kyrgyz Republic, and Mongolia when the rail wagons reach the PRC border. For instance, at XUAR, Chinese goods entering Dostyk will need to be lifted by crane to the Kazakh rail axle before entering Kazakhstan. This situation results in delays and additional costs.

#### **Unsupportive Policies and Procedures**

Non-harmonized customs procedures constitute the most significant impediment to crossborder trade and transport and result in long queues of trucks waiting for customs clearance, increased opportunities for unofficial payments for expediting clearance, and unreliable lead times for the entire supply chain.

Table 5: Road Densities of Central Asia Regional Economic Cooperation Countries

<b>Countries or Territories</b>	Road Length (km)	Area (km²)	Density (km/100 m <sup>2</sup> )
Afghanistan	26,700	647,500	4.12
Azerbaijan	29,000	86,600	33.49
Kazakhstan	83,720	2,717,300	3.08
Kyrgyz Republic	34,000	198,500	17.13
Mongolia	49,077	1,564,116	3.14
Tajikistan	30,563	143,100	21.36
Uzbekistan	83,000	447,400	18.55
IMAR, PRC	75,000	1,183,000	6.34
XUAR, PRC	145,190	1,660,000	8.75

IMAR = Inner Mongolia Autonomous Region; PRC = People's Republic of China; XUAR = Xinjiang Uygur Autonomous Region.

Source: Various consultants' reports.

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The root cause of the problem is the different product classification systems being used, resulting in problems in the valuation of the goods. For customs to collect export and import duties, it is necessary to classify products correctly. However, different interpretations are possible for the same item, and thus different valuations can arise. This is further compounded by the use of multiple languages at certain border posts, which increases the possibility of translation errors.

The lack of formal agreements on data exchange is another factor that hampers cross-border trade. Theoretically, the cargo exported by the source should be the same as the cargo imported at the destination. In more advanced countries, advance shipping notifications or cargo manifests can be sent electronically between the exporting and importing ports, thus reducing errors, cutting down the time needed for data capture, and helping in countering the entry of contraband. However, this is not possible in the CAREC region where there is no exchange of customs data on incoming or outgoing goods. Compounding the problem is the use of different software applications and technologies by customs agencies across borders. IMAR uses H2000, which is a PRC-derived customs management software, while Mongolia uses Gamas.

The non-enforcement of transport agreements constitutes another cause for concern. Among the CAREC members, a number of bilateral and multilateral agreements have been signed to allow the seamless movement of cargoes and delivery trucks. However, these agreements are rarely implemented fully and faithfully at the ground level, including at border crossing points.

Restrictive trade policy regimes in the region erect trade barriers. Among the CAREC countries, the Kyrgyz Republic has the most liberal regime and Azerbaijan, Kazakhstan, Tajikistan, and Afghanistan have fairly liberal regimes. On the other hand, Uzbekistan has a very restrictive one. For instance, Uzbekistan subjects most imports to customs duties of up to 30%. With some exceptions, it also generally imposes a 20% excise tax on imports, and taxes automobiles with a 90% tariff. Afghanistan, for its part, has an average tariff rate of 4% and had reduced its tariff bands from 25 to 4 in 2006.

A related problem is the frequent changes in tariff rates, especially in Azerbaijan, Kazakhstan, Tajikistan, and Uzbekistan. Freight forwarders and shippers lament that the unpredictability of the tariffs and customs practices make long-term planning difficult.

Burdensome customs procedures make smooth and seamless transit across Central Asia difficult. Numerous documents are required for import and export clearance with an average of 20 documents being required for declarations. Approvals from different government agencies, such as the Ministry of Trade and Industry, the Ministry of Foreign Affairs and the Chamber of Commerce and Industry, are required in many cases. A one-stop service does not exist. However, a number of CAREC countries have embarked on implementing an e-port or a single electronic window scheme, which aims to reduce the time for completing the declaration process.

Different inspection standards among different countries results in longer inspection time at the border. Typically, an inspection at the border will consist of the following: phyto-sanitary inspection for plants and agriculture products, veterinary inspection for animals and processed meat, vehicle inspection for weight and dimensions control, immigration and visa inspection to ensure compliance with requirements for drivers entering borders, and cargo inspection to properly classify and value the cargoes. It was reported that PRC phyto-sanitary and veterinary standards are perceived to be more stringent. For instance, Mongolian exports of cashmere and

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processed meat, and Kazakh exports of wheat, are subjected to especially stringent standards and therefore require longer clearance time.

Escorted convoys are also common in Central Asia. After border crossing, the delivery trucks are parked in a holding area where they wait for traffic police and customs officers who are mandated to escort them in a convoy along certain sections of particular routes. The waiting time for the assembly of a convoy and the escort fees collected add to the inefficiency of road transport, which is usually not a problem for rail transport. An example is Uzbekistan's levy on Kyrgyz drivers for customs escort, which costs 50 for distances less than 200 km, and 120 for distances longer than 200 km.

Unofficial payments remain a perennial problem for drivers and shippers. Although no empirical evidence has been collected comprehensively, various reports indicated that the practice of demanding unofficial payments is prevalent. In the Kyrgyz Republic, police roadblocks are very common along key transit routes. Drivers are frequently stopped and asked to pay unofficial payments to be allowed to continue their journey.

#### Challenges in the Logistics Sector

Aside from physical infrastructure and policy and/or procedural issues, logistics industry inadequacies pose a challenge to the efficient movement of goods. A strategic analysis of the logistics industry in all the CAREC members showed that intense rivalry among logistics service providers is common. The sector is characterized by many enterprises that are *small in size*, weak in financial strength and limited in services. This situation is mainly due to the low barrier to entry into the logistics industry, and partially to government reforms that privatize previously state-owned assets. The intense competition based on price that these two factors create has led to destructive pricing practices and lack of profitability for most enterprises which, in turn, has forced most logistics service providers to use old and inefficient trucks. This poses higher transit costs and creates higher risks of accidents and vehicle damages.

Limited expertise in multimodal transport also hampers the integration of Central Asia to world trade. Logistics sectors in the region are familiar with the process of transporting cargoes in conventional rail, but their lack of expertise in multimodal transport, compounded by the lack of multimodal hubs, poses a challenge.

This problem has resulted in the low level of containerization in CAREC. Logistics professionals in the region are adept at managing transport using conventional rail, full-truckload or less-than-truckload methods. However, they have expressed discomfort and, in some cases, unfamiliarity with moving cargoes in International Organization for Standardization (ISO) containers. Establishing container terminals and providing training would improve this situation while allowing containers to move further inland and thus reduce handling cost and delays.

A shortage of professionals likewise plagues the industry. Contemporary logisticians need to have appropriate knowledge and skills in a myriad of multidisciplinary areas such as economics, international trade, multimodal transport, project logistics, customs laws, and warehousing. Throughout the region, too few professionals with such knowledge and expertise exist. The lack of professionals limits the ability of logistics companies to offer optimum logistics services.

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The low use of mechanization, automation, and computerization is noted in all the reports. In their field trips to border crossing points, warehouses and storage facilities, the consultants observed that a great proportion of the processes of loading and unloading, storage, picking up, and shipping involve manual labor. The use of material handling equipment, such as forklifts, reach trucks, and pallet jacks, is not common. Data is captured manually. The use of computers is common but not the application of specialized logistics software. Computers are neither linked in a local area network to increase office productivity, nor in a wide area network for electronic data interchange with other stakeholders such as customers, suppliers, transporters, and government.

Restricted access to financing is one of the major limiting factors for the fuller development of the transport and logistics sectors in the region. Many CAREC countries have restrictive financial policies and practices that make it hard for logistics companies to borrow funds for reinvestments. Interest rates are also very high, ranging from 17% to 24%. This deters logistics service providers, as well as all other businessmen from financing efficiency-enhancing and productivity-increasing initiatives, such as upgrading their equipment or re-fleeting, through debt. Equity financing is not a viable alternative given the underdeveloped capital markets throughout the region. To purchase a new European-made delivery truck, an Azerbaijan businessman would need to spend \$200,000 exclusive of a 5% customs duty and an 18% value added tax. Most Azeri companies would find the price prohibitively expensive and whatever financing is available through bank loans is unaffordable because of extremely unfavorable interest rates.

Limited trade financing is another problem for companies operating in Central Asia. Letters of credit from most banks in the region are not commonly accepted. This makes it harder for shippers to effect payment, especially in new businesses where a performance bond is sometimes required. It is also commonly perceived that the currencies in the region are vulnerable to devaluation against the US dollar, so logistics companies may need to convert their currencies into US dollars for them to make payments. For instance, IMAR companies demand payment in the PRC renminbi or US dollar instead of accepting Mongolian togrogs due to the perceived weakness of the Mongolian currency.

The lack of specialized services and facilities is likewise often cited in the reports as a hampering factor to the fuller development of transport and logistics in the CAREC countries and territories. Most logistics service providers can offer basic transport, but not insurance, cold chain, containerization, and other value-added services. The skill set and facilities for these services are often only available in large freight forwarding companies. In Mongolia and IMAR, the consultants reported the lack of refrigerated storage facilities and cold chain infrastructure. Furthermore, IMAR and Tajik drivers often wait a few days with trucks full of tomatoes at processing factories due to the lack of cold rooms. This increases spoilage and results in waste in the supply chain.

### Measures for More Efficient and Competitive Transport and Logistics Sectors

After identifying the challenges faced in each country and, sometimes in the CAREC region as a whole, the reports recommended various short- and long-term measures to address the problems. Some measures could be implemented quickly at relatively low cost, while others, such as the construction of railways, would require large financial investment and long gestation periods.

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A common recommendation by the consultants is the formulation of a national master plan on transport and logistics by a public—private body. All the countries have some form of an interministry group that is tasked with examining issues on border crossing, customs administration, and trade. However, Afghanistan and Tajikistan do not have comprehensive master plans. Although they have such plans, Azerbaijan, the Kyrgyz Republic, Kazakhstan, and Mongolia have been facing requests from their respective private sectors for more active participation in the process of reviewing and revising such plans. IMAR and XUAR have transport and logistics master plans that are incorporated in the strategies developed by the PRC National Development and Reform Commission.

Other common recommended measures are summarized below.

#### Measures to Address Physical Infrastructure Deficiencies

- (i) Undertake studies to determine the projected demand for road and railway services to be used for transport and logistics master plans.
- (ii) Explore the feasibility and viability of constructing double-track rail systems, electrifying railway networks, and installing double-stack train systems to increase the carriage capacity of railways.
- (iii) Consider the build—operate—transfer model to introduce private funding into road construction and maintenance.
- (iv) Construct logistics facilities, such as public warehouses, logistics parks, trucking terminals, container yards and terminals, special economic zones, and export processing zones, in selected sites to develop higher efficiency and multimodal capabilities.
- (v) Develop roads connecting to border-crossing points and acquire and upgrade equipment and facilities, such as X-ray machines, standard weighing machines, and better storage facilities, in these posts.

#### Policy and Procedural Reform Measures

- (i) Incorporate initiatives to improve border crossing practices, install a single electronic window scheme, and establish a regional transit system in national transport and logistics plans.
- (ii) Institute dialogues among CAREC members on regional transit agreements, access to seaports, and sharing of information across customs jurisdictions.
- (iii) Reduce changes in customs procedures where possible, so that the private sector can conduct long-term strategic planning and short-term operational planning.
- (iv) Provide a one-stop integrated service for export and import declarations by simplifying cumbersome application processes and reducing the number of documents required for approvals.
- (v) Institute regular dialogues with the private sector on the changes in tariff schedules.
- (vi) Review escorts and convoys, and where deemed unnecessary, eliminate such practices.
- (vii) Adopt a risk-based management approach to inspection, in contrast to the current and prevalent practice of conducting 100% physical inspection on incoming goods.

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#### Measures to Address Challenges in the Logistics Industry

- (i) Implement policies rationalizing the industry to prevent destructive competition, mainly by encouraging mergers and consolidations.
- (ii) Implement initiatives, such as low interest enterprise funds, tax incentives for new vehicles, and disincentives for using old trucks, to encourage transport and logistics companies to reinvest in upgrading their capabilities through, among other measures, purchasing new and more fuel-efficient vehicles.
- (iii) Attract more talent into the logistics industry through a mixed approach of attracting foreign professionals, and producing more qualified local professionals through local universities and training centers; and
- (iv) Conduct courses that are practical and useful, such as inco-terms, International Federation of Freight Forwarders Associations courses, and training on container handling.

# Transport and Logistics in Individual Central Asia Regional Economic Cooperation Countries

#### **Afghanistan**

#### Profile

Afghanistan has a territory of over 647,500 square kilometers (km²) and a population of 24.5 million.<sup>5</sup> Landlocked, it is about 2,000 km away from a seaport and its mountainous terrain makes it more difficult to move goods and people from, to, and through it. Generally, its roads are in poor condition, including its trunk road, which is actually a "ring road" that passes through its major cities such as Kabul, Kandahar, Herat and Mashare-Sharif. It has no rail system.

#### Challenges

Among the challenges faced by Afghanistan in transporting goods and people are the following:

- (i) distance from seaports and markets;
- (ii) being landlocked;
- (iii) aging truck fleets;
- (iv) slow transition to a market economy;
- (v) weak private industry, which limits demand for transport services;
- (vi) lack of a national mechanism to oversee and coordinate trade and transport;
- (vii) weak banking sector that offers limited services, thus constraining trade and transport of goods;
- (viii) lack of bonded warehousing facilities:
- (ix) weak standards certification capability; and
- (x) lack of fully trained human resources to manage the operations of its transport and logistics sectors.

<sup>&</sup>lt;sup>5</sup> The figure is estimated because no census has been taken since 1979.

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The cross-border trade challenges that Afghanistan faces are the following:

- (i) lack of harmonized customs documents;
- (ii) lack of harmonized border crossing point operating hours;
- (iii) lack of coordinated customs physical inspection;
- (iv) restrictions on Afghanistan-registered trucks travelling beyond Peshawar;
- (v) monopoly of transport on the Karachi–Peshawar road route by the national trucking company, the National Logistics Cell;
- (vi) long delays in customs clearance;
- (vii) pilferage;
- (viii) outdated transit and trade agreements; and
- (ix) long delays in Karachi seaport.

Afghanistan relies heavily on two seaports for its exports: Karachi in Pakistan and Bandar Abbas in Iran. However, port delays at seaports such as Karachi lengthen the total transport time (Table 6).

Table 6: Kabul to Bandar Abbas and Karachi Competitive Road Transport Comparison, 2006

Kabul to:	Travel time (days)	Port delays (days)	Total time (days)*	Total cost** (\$)
Karachi	4	10	14	1,950
Bandar Abbas	6	3	9	2,700

<sup>\*</sup> Total time includes total days from leaving Kabul customs and departing point.

Source: Tomczyk, J. 2009. Afghanistan: Trade Facilitation and Logistics Development Strategy Report.

Manila: Asian Development Bank.

#### Measures to Improve Transport and Logistics in Afghanistan

There are many essential measures needed to improve physical infrastructure, enhance operational capability, and streamline cross-border procedures in Afghanistan. Of these initiatives, there are a number of strategic ones. The Ministry of Public Works should complete the 200 km stretch of the ring road, as this is the main artery for traffic movement in the nation. Special emphasis ought to be given to building a dual carriageway between Kabul and Jalalabad. The border crossing points need to have their facilities and inspection equipment improved. Supply chain security equipment is especially needed in places like Torkham and Kabul International Airport, due to the security concerns in the country. The use of a single window system is another strategic thrust to shorten the export permit application process. This requires the complement of computer hardware and accessories. In the private sector, the Association of Afghanistan Freight Forwarders Companies, the national organization of private freight forwarders, can work with the International Federation of Freight Forwarders Associations to provide training opportunities for stakeholders in the transport and logistics sectors, while the Chamber of Commerce and Industry can explore the feasibility of serving as a national agency for the Transport Internationaux Routiers (TIR) system.

<sup>\*\*</sup> Cost per 20-foot container from Kabul to destination seaport.

#### **Azerbaijan**

#### **Profile**

Azerbaijan measures over 86,000 km² and has a population of 8.58 million. Since gaining its independence, its economy had been growing slowly until the discovery of oil deposits in the second half of the 1990s, which became the foundation for the more robust growth of its economy. From 2003 to 2007, its gross domestic product (GDP) grew by a compounded annual rate of 21%, mainly led by oil exports. Its geographical location also puts it in a strategic position as a transit nation for products moving from east to west. The Baku International Airport and the Baku Seaport are two of the busiest cargo handling facilities in the Caspian region. In June 2008, Forbes upgraded the country from the rank of 110 to 82 in its "Best Countries for Business" report, further emphasizing the potential of Azerbaijan as a center of commerce and trade in CAREC.

Azerbaijan has 29,000 km of roads and 2,100 km of railways, substantial portions of which constitute key routes in Transport Caucasus Europe Central Asia (TRACECA) and CAREC corridors (2a and 2b). Generally, its roads are not well maintained, thus reducing vehicle speed. Nevertheless, road transport, together with the other forms of transport, is enjoying robust growth riding on the oil exploration and transport boom. One notable development was the recent completion of the Baku-Tbilisi-Ceyhan pipeline that transports oil and gas across the Caucasus to Europe. This pipeline has a daily capacity of 1 million barrels and is approaching full utilization. The movement of oil drilling and exploration equipment, machineries and construction materials is likely to drive the growth in transport for some years to come. It is thus urgent that transport capacity and the handling efficiency in seaports and inland terminals be increased to required levels.

#### Challenges and Opportunities

Azerbaijan faces the following transport challenges:

- (i) poor road design and conditions;
- (ii) limited availability of quality fuel;
- (iii) rent-seeking along roads and highways;
- (iv) high logistics costs; and
- (v) an imbalanced transport load, where capacity is heavily utilized in one direction, thus resulting in empty backhauls.

The cross-border trade challenges that Azerbaijan faces are as follows:

- (i) lack of an integrated national trade facilitation strategy,
- (ii) complex trade control systems and regulations,
- (iii) an underdeveloped banking system that limits access to financing for the development of trade and the transport and logistics industries.
- (iv) lack of transparency and uniformity in the interpretation of customs laws and regulations,
- (v) high brokerage fees, and
- (vi) absence of bonded warehouses.

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#### Measures to Improve Transport and Logistics in Azerbaijan

As a first initiative, Azerbaijan ought to formulate a national plan for the development of its transport infrastructure and its logistics sector. The Asian Development Bank report furnishes an analysis of the major transport corridors and suggests possible locations for logistics centers. Moreover, a road use payment system must also be considered to make more resources available for the upgrading and maintenance of public roads. Private sector participation is also essential to mobilize investments. It is recommended that the Azerbaijan national railway operator and regulator, the Azerbaycan Dooviet Deniri Yolu (ADDY), review the network's operations and utilization rates so that old and surplus equipment can be sold and investment focused on key routes. One key initiative by ADDY is to construct a standard gauge railway connection to the Georgian border, which would provide a seamless rail line all the way to Turkey.

#### Kazakhstan

#### **Profile**

Kazakhstan has a land mass of more than 2.7 million km², the ninth largest in the world, and a population of 16 million. Located between two giant economies, the People's Republic of China (PRC) and the Russian Federation, it is an integral part of the modern land-bridge linking Asia and Europe. Its rich resource base of minerals and crude oil drives its economic growth, with its GDP growing at an average of 9.5% per year from 2002 to 2007. It leads the region in rail sector reform, having successfully privatized the businesses in railcars, locomotives and equipment, and increasing rail carriage capacity by encouraging private sector investment in the transport industry. This unique experience is a classic case that its neighboring countries may wish to study and better understand.

Kazakhstan has 88,400 km of roads and 14,205 km of railways. Together, the two modes of transport carry more than 90% of the export, import, and transit cargo freight in the country. Increasing freight volume is putting a strain on its railways and public roads, which are mostly of Class III or lower standards. A huge opportunity now exists for the country in the form of the Western [People's Republic of]China–Western Europe corridor that traverses 2,624 km of roads within it. This project, which is supported by multiple donor organizations, seeks to create a more connected transit route between Asia and Europe. In support of this initiative, Kazakhstan announced in October 2007 that it would implement a total of 80 investment projects, worth around \$30 billion in 2007–2015. This investment program involves the laying of around 1,600 km of new railway tracks, electrifying 2,700 km of existing railways, and building or repairing 50,000 km of roads across the country.

#### Challenges

Kazakhstan faces the following challenges in its transport sector:

- (i) need to increase its railway capacity, which is again approaching its limit;
- (ii) lack of Class I and II roads;
- (iii) empty backhaul for delivery trucks;

- (iv) lack of expertise in containerization;
- (v) high import tariff for containers;
- (vi) high cost of containerized transport; and
- (vii) lack of human resources with appropriate skills and expertise.

The country also faces the following challenges related to cross-border trade:

- (i) unfavorable customs levies,
- (ii) burdensome customs procedures,
- (iii) frequent changes to customs laws,
- (iv) unofficial payments for the clearance of cargo,
- (v) limitations in banking and finance, and
- (vi) high fees and complex procedures for the issuance of visas.

#### Measures to Improve Transport and Logistics in Kazakhstan

A national master plan is proposed to identify and prioritize the key nodes in the country in the context of the CAREC corridors, with Astana, Almaty, Aktau, Atyrau, Aktobe and Karangandy being given primary priority and Korgas, Dostyk, Beineu, Semey, Taraz and Troitsk being given secondary priority. Some border posts must also be upgraded to alleviate the impacts of long waiting times and high transport costs for border crossing. It is recommended that Kazakhstan explores the use of a single electronic window system, as well as the setting up of enterprise loans for local transport companies to improve their trucks and equipment.

#### Kyrgyz Republic

#### **Profile**

The Kyrgyz Republic has a territory of 199,000 km² and a population of 5.2 million. It has been implementing relatively liberal economic and political reforms, one of which is opening up its transport and logistics sector to private investments. Its per capita GDP is about \$2,200, and trade has been growing robustly, although it imports twice as much than it exports. Its imports in 2008 amounted to \$3.2 billion while its exports totalled \$1.6 billion. One of the key challenges that its government is actively addressing is its limited industrial base, which is partly the result of its small population, and which limits demand for its domestic industrial production. Some of the key CAREC (1b, 2, 3b, 5) and TRACECA corridors pass through it, thus enhancing its potential as a transit nation.

The Kyrgyz Republic has 2,242 km of roads and 423.5 km of railways, with the former handling 95% of the total freight volume. There is a critical need for additional investment to upgrade and construct more roads. The government's budget for transport is only 20% of the required amount and thus 200 km of road surface seriously deteriorates every year. Compared to roads, rail assets and equipment in the country are relatively in better condition due to better maintenance and less intensive use. The Kyrgyz railway authority and operator is also more open and pragmatic in adopting best practices in the industry.

#### **Challenges**

In addition to the need to construct more roads and provide for the adequate maintenance of its road system, the, Kyrgyz Republic faces the following challenges in its transport sector:

- (i) lack of integration in its railway system in that transporting cargo from north to south requires passing through Kazakhstan and Uzbekistan;
- (ii) Kyrgyz enclaves in Kazakhstan and Uzbekistan that increase costs and delays when crossing borders, or when making detours to avoid customs inspections;
- (iii) heavy dependence on neighboring countries for railway maintenance, operational scheduling, rolling stock availability, and railways development expertise;
- (iv) absence of a strong national air carrier that makes it dependent on other carriers for air transport; and
- (v) Shortage of specialized transport equipment such as reefer trucks.

The cross-border trade challenges that the Kyrgyz Republic faces are the following:

- (i) burdensome customs requirements that require twice the amount of paperwork as that required by the Russian Federation or the PRC;
- (ii) lack of equipment and information technology systems that hamper the productivity of customs officers at border posts, thus lengthening inspection and clearance time and increasing costs;
- (iii) prevalent unofficial payments that can amount to two-thirds of the total transport cost;
- (iv) limited communication at border posts with neighboring countries through which to share information and thus increase operational efficiencies;
- (v) absence of a common customs guarantee system acceptable to both Kyrgyz and PRC customs authorities; and
- (vi) lack of standards in weight bridges used in different border posts, which creates a potential problem of unnecessary fines and extortion.

#### Measures to Improve Transport and Logistics in the Kyrgyz Republic

The Kyrgyz Republic ought to consider encouraging investors from the PRC, Russian Federation, and Kazakhstan, the three countries with considerable influence and stake in it, to invest in Kyrgyz enterprises. These investments will improve the competitiveness and productivity of the Kyrgyz economy and thereby, among other effects, increase demand for, and the availability of, transport and logistics services. The country also needs to engage donor organizations to improve its physical infrastructure. These measures are critical in addressing the shortfall of funds for public projects.

Among the more specific measures needed to improve transport and logistics services in the Kyrgyz Republic are the construction of a railway linking Kashgar and Kara-Suu, and of roads linking Kashgar and Irkeshtam—Osh, and the rehabilitation of the Torugart—Balykchi—Bishkek road. These measures are needed to enable the country to cope with the increasing trade flows between it and the PRC. At the same time, the following locations will need to be developed to enhance transport efficiency: the At-Bashi logistics terminal, Sary-Tash logistics terminal,

Alamedin multimodal hub, Osh container yard, and Kara-Suu multimodal hub. There is also a need for customs to establish a weight certification standard acceptable to it and those in neighboring countries, improve customs cooperation, and strengthen the communication among the Kyrgyz Republic border posts and between these posts and those of neighboring countries. These measures should improve cross-border performance.

#### Mongolia

#### **Profile**

Mongolia, with a territory of 1,564,116 km² and a population of 2.64 million, is strategically located between the two giant economies of the PRC and the Russian Federation. It is also well endowed with mineral resources such as copper and gold. Animal products such as raw and processed meat and cashmere are also among its key exports. As mining is the most important driver of its exports, accounting for 71.5% of total, its economy is tied to volatile commodity prices. A key railway of slightly more than 1,000 km that runs through it links the Russian Federation's border post of Nauski to the PRC border posts of Erlian in the south. This railway has been selected as a trunk route in CAREC Corridor 4, and offers an alternative to the Trans-Siberian railways.

Mongolia has 49,077 km of roads and 1,810 km of railways. Compared to those in Inner Mongolia, the condition of its roads is relatively inferior. Although the north—south highway linking Sukhbaatar to Ulaan Baatar is relatively well maintained, a number of roads in other parts of the country require urgent maintenance and repair.

Despite the inadequacies of its infrastructure, Mongolia offers a number of advantages that may spur cross-border trade between it and its neighbors. First, it is a beneficiary of the European Union's (EU) Generalized System of Preferences under which its exports to Europe enjoy no or lower tariffs. Second, its proximity to Russian Federation border towns, most of which do not have well-stocked supplies of daily necessities or durables, and the availability of these goods in its border towns draw Russian Federation buyers to its territory and engage in cross-border trade. Third, it is relatively advanced in establishing and operating free economic zones and is working hard to promote Zamyn-Uud, Altanbulag, and Tsagaannuur. In addition, it runs dedicated container block train services such as the Mongolian Express and Friendship to the west and east, which provides reliable services for long-distance transport.

#### **Challenges**

Mongolia faces the following challenges in its transport sector:

- (i) the fact that MTZ, the operator of Mongolia's railway, is a joint venture, between the Russian Federation and Mongolia, thus leaving Mongolia with limited authority to reform the rail sector or upgrade the capacity of its railways;
- seasonality of trade patterns, which create peak demands for rail service for certain products in particular time periods, thus displacing other goods and causing long delays;

- (iii) absence of multimodal transport for transit cargo because of the absence of a road from Choyr to Zamyn-Uud, resulting in a highly inflexible transport system under which most transit freight is transported by rail and domestic freight by road;
- (iv) lack of public funds to build, rehabilitate, and maintain roads, and the infeasibility of private capital investing in such activities under the build—operate—transfer model because of limited demand resulting from its large land mass and small population; and
- (v) lack of public warehouses, with most logistics companies building and owning their warehouses, usually small in scale and limited in functionality.

Cross-border trade in Mongolia faces the following challenges:

- (i) heavy reliance on PRC ports for the movement of imports and exports, and the congested situation in PRC ports such as Xingang, which causes delays in the movement of goods;
- (ii) differences in its and the PRC's inspection and quarantine standards, which delays the movement of animal-related products at the border of Zamyn-Uud and Erlian;
- (iii) minimal exchange of data between its and the PRC's customs, partly due to the different information product classification systems; and
- (iv) the non-implementation of road transport agreements it signed with the Russian Federation and the PRC, which allows free movement of vehicles, and the fact that the PRC has yet to accede to the Transport Internationaux Routiers (TIR) Convention.

#### Measures to Improve Transport and Logistics in Mongolia

The proposed strategy for the transport and logistics sectors in Mongolia calls for increasing the demand for, and the supply of, transport and logistics services. To improve demand, it is proposed that the competitiveness of the local industry base be strengthened and that production be moved up the value chain. For instance, instead of exporting raw timber, Mongolia can also add value to the timber by cutting these into customized pieces. This will capture more value from the transit trade and, in turn, drive up the demand for transport services. Meanwhile, to improve the supply of transport and logistics services, the government would need to establish logistics facilities and infrastructure, such as a comprehensive trucking terminal and a central distribution centre in Ulaan Baatar. It is also imperative to evaluate the various means to expand the railway capacity such as installing a double-stacked train system.

#### **Tajikistan**

#### **Profile**

Known as the "roof of the world," Tajikistan has a terrain that is 93% mountainous. Its territory measures 143,100 km², and its population numbers 7.32 million. Its GDP grew by an average of 18.9% a year from 2003 to 2007. Its economy is relatively undiversified, relying heavily on exports of aluminium, cotton, and hydroelectric power. CAREC Corridors 3b, 5, and 6c pass through it. Its transport infrastructure consists mainly of 30,653 km of roads and 950.7 km of railways.

The country is actively seeking to expand its overseas markets. One important factor in this effort is the level of collaboration it can achieve with Uzbekistan. Due to its location east of

Uzbekistan, its delivery trucks need to pass through this country to reach other markets such as Ukraine, Turkey, and the EU. It is when passing through Uzbekistan that its drivers face certain difficulties. Both governments are holding discussions to resolve these problems.

#### **Challenges**

Tajikistan faces the following transport challenges:

- (i) a disjointed rail network, with the northern section of the rail system not being connected to the southern section, thus leaving road transport as the only option for transporting goods;
- (ii) its mountainous terrain, which poses huge problems for land transport, especially during winter and in high altitude regions;
- (iii) the urgent need to upgrade a large part of the road network; and
- (iv) limited access to financing and a value-added tax of 25%, which limits options for logistics service providers in reinvesting in upgrading equipment and trucks.

The challenges Tajikistan faces relating to cross-border trade are the following:

- (i) presence of enclaves of Kyrgyz and Uzbek territories, which requires rail border crossings, entailing more time delays and higher transport costs;
- (ii) lack of free-trade zones or special economic zones, which reduces its appeal to foreign investors and traders;
- (iii) customs procedures that require 18 documents for the export of a container, thus adding delays and costs to cross-border trade; and
- (iv) lack of inspection equipment and the limited use of information technology, both of which cause long queues at the border crossing points, to the detriment of shippers, especially those transporting products with limited shelf life.

#### Measures to Improve Transport and Logistics in Tajikistan

The country can form a national joint committee to develop public—private consensus around a national strategy on trade and transport development, and to mobilize support for such an approach. One of the immediate outputs of this partnership ought to be a draft national plan for the transport sector, identifying the development and investment priorities, the key nodes in the transport network, and the ways through which private enterprises can be engaged. This plan ought to provide for measures to optimize potential trade with South Asia through the Nizhniy Pyandzn border point with Afghanistan, which is a key section in CAREC corridors 5 and 6a, thus allowing Tajikistan to connect to the southern seaports of Bandar Abbas in Iran and Karachi in Pakistan.

#### Uzbekistan

#### **Profile**

Uzbekistan is a double landlocked country with a territory measuring 447,000 km² and a relatively young and literate population of 27.4 million people. In 2007, it achieved a GDP growth rate of 9.5%. Its international trade expanded by 40.7% in the same year, led by an export boom. A number of key CAREC corridors, namely 2a, 2b, 3a, 3b, and 6, pass through it.

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Uzbekistan has 83,000 km of roads and 4,400 km of railways. Ninety percent of its roads is paved and of Class I and II standards. Nonetheless, a large portion of the roads needs maintenance due to the use by overloaded trucks. In the region, only Uzbekistan, the Russian Federation, and Ukraine have the ability to construct and rehabilitate rail wagons. Overall, its transport industry is influenced by the trade patterns in the region, with transit trade occupying a central role.

#### **Challenges**

The following are the challenges that Uzbekistan faces in its transport and logistics sectors:

- (i) presence of a large number of militia checkpoints at road intersections, border points and administrative borders, resulting in increased delays and costs;
- (ii) lack of quality fuel, which results in damage to vehicles caused by the use of substandard fuel, and delays and additional costs incurred in the search for quality fuel; and
- (iii) shortage of trained professionals, especially in modern supply chain management.

The cross-border trade challenges that Uzbekistan faces are the following:

- (i) high import tariffs and excise tax, with most products subjected to a 20% excise tax, and automobiles to a tariff as high as 90%;
- (ii) an underdeveloped banking system, where there are only two foreign banks in the country;
- (iii) complex, cumbersome, and restrictive laws and regulations on foreign exchange, which makes the repatriation of funds and the payment for imports difficult for foreign businesses:
- (iv) a complicated customs code, which encourages non-uniform interpretation and produces inconsistent outcomes during border crossing; and
- (v) a 100% inspection system in the absence of a risk-based assessment methodology; a 0.2% processing fee, and a 5/hour (weekday) or 20/hour (weekend) customs inspection fee.

#### Measures to Improve Transport and Logistics in Uzbekistan

A key measure to improve the transport and logistics sectors in Uzbekistan is the construction of the [People's Republic of]China–Kyrgyz Republic–Uzbekistan Railway. The railway can pass through Irkeshtam–Osh–Andijan, which has relative merits compared to other routes. With this railway, more products can flow between the PRC and the region at a faster speed and lower cost.

Another measure is the conduct of benchmarking studies for the proposed international airport in Navoi. Operations at the Chicago and Frankfurt airports, which are aviation hubs, can be studied to gain insights on the setting of performance targets for the new airport. In particular, a super multimodal hub can be established by linking rail and road networks to the airport. Another specific measure is the construction of a new Chardjou bridge over the Amu Darya River. The current bridge is 30 years old and was severely damaged in the winter of 2007. With an average of 40,000 trucks using the bridge per year, this connection is a key node that links traffic to Turkmenistan and Iran. Finally, logistics centers need to be established in the key strategic points of Tashkent, Andijan, Keles, Alat, Termez, Nukus, Bukhara, and Navoi.

#### Inner Mongolia Autonomous Region, People's Republic of China

#### **Profile**

With a land area of 1.183 million km², the Inner Mongolia Autonomous Region (IMAR) covers one-eighth of the PRC's territory. It has around 24 million people and is well endowed with minerals such as coal, and vast grasslands from where it produces wool, meat, vegetables and cashmere. Its GDP expanded rapidly from 2000 to 2004, growing by an average of 17.9% per annum, from \$16.94 billion to \$32.79 billion. Its international trade is robust, with exports amounting to \$1.68 billion and imports, \$2.3 billion in 2004. It is the gateway between Mongolia and the seaport of Tianjin (PRC) in CAREC Corridor 4.

Inner Mongolia has 75,000 km of roads and 7,436 km of railways. In general, its roads are in relatively better condition than those in CAREC countries, with a number of truck routes being of either Class I or Class II standards. Although most businesses prefer rail transport because it is less costly, the long wait for rail cars to be available, which can be a week long, is a deterrent. In contrast, a delivery truck can be arranged within a day or two, and this provides greater flexibility for time-sensitive goods. Meanwhile, logistics service providers are rapidly improving their range of services. A significant issue that would determine the state of international trade in IMAR in the future is whether or not the PRC will join its neighboring countries in adopting the TIR system.

#### **Challenges**

The challenges faced by IMAR's transport sector include

- (i) seasonality of demand for rail cars in that most rail cars are used to transport coal to the PRC in winter and then to transport construction materials and fertilizer to Ulaan Baatar in summer, thus lengthening the waiting time for rail cars for other products:
- (ii) non-compliance by its dry ports, except for Erlian, with international standards and the seasonality of the operations of these ports; and
- (iii) serious lack of cold chain facilities, which increases post-harvest losses in farms.

The cross-border trade challenges that IMAR faces are

- (i) the fact that the bilateral road agreement between the PRC and Mongolia has not been fully implemented, thus limiting the distance within which truck drivers can cross into the other's territory;
- (ii) difference between Mongolia and the PRC's systems for product descriptions and classifications, thus leading to inefficiencies in the valuation of goods;
- (iii) different languages that are used at cross-border ports—Chinese, Russian, Mongolian, and English—which gives rise to translation errors;
- (iv) lack of mutual agreement on inspection standards, especially for animal products, thus resulting in differences in quarantine and veterinary standards; and
- (v) difference in the railway standards between the PRC and Mongolia, thus the need to transload cargoes at the Zamyn-Uud and Erlian border posts.

#### Measures to Improve Transport and Logistics in Inner Mongolia

The transport and logistics sectors and the cross-border trade of Inner Mongolia are intricately linked to the transport of goods to and from Mongolia. The recommendations to improve these sectors and cross-border trade therefore revolve around improving relationships with Mongolia. More interaction should be encouraged between the authorities of IMAR and Mongolia. For instance, a steering committee can be established to discuss TIR accession issues for PRC, while another can examine the feasibility of improving the interchange of electronic data between the two customs authorities, for which IMAR uses H2000 and Mongolia uses the proprietary system Gamas. The harmonization of customs procedures and practices will also go a long way to increase the level of trade between the two territories.

Complementing these efforts ought to be investments in physical infrastructure, logistics facilities, and specialized equipment. Representatives of Inner Mongolia and Mongolia can conduct dialogues to determine the infrastructure, facilities, and equipment requirements in Hohhot, Baotou and Bayannao'er, to make cross-border trade more efficient. Besides Erlian, Ceke, and Ganqimaodao, the other key areas where logistics centers need to be set up include Jining and Linhe. The provision of public refrigerated warehouses is also recommended so that the spoilage level of foodstuffs, vegetables and meat can be reduced significantly.

#### Xinjiang Uygur Autonomous Region, People's Republic of China

#### **Profile**

With a land area of 1.646 million km², the Xinjiang Uygur Autonomous Region of the PRC has about 19 million people of diverse ethnicity. In 2006, its GDP grew by 16.9% over the previous year. Its international trade has been expanding steadily, its 2006 total trade value amounting to \$9.03 billion, of which exports accounted for \$7.139 billion. Its main trading partners are the five Central Asian countries of Kazakhstan, the Kyrgyz Republic, Tajikistan, Uzbekistan, and Turkmenistan, which were destinations for 81.9% of its exports and sources of 79.0% of its imports in the same year.

Xinjiang Uygur has 145,190 km of roads and 1,371 km of railways. Its role is especially important as the PRC's gateway to Central Asia and the point of origin of the CAREC transport corridors. The city of Urumqi acts as a consolidation center for goods moving between the PRC and Central Asia, where border points such as Alashankou and Khorgos play a very essential role. The southern city of Kashgar is also central to its trade with the Kyrgyz Republic, Tajikistan, and Afghanistan. Moreover, once its reliability, security, and cost effectiveness are improved to appropriate levels, railways through Xinjiang Uygur and Kazakhstan can be a viable competitor to the Trans-Siberian railways.

#### **Challenges**

Xinjiang Uygur faces the following transport-related challenges:

(i) imbalanced trade flow between Xinjiang Uygur and the coastal cities, with goods moving eastward into central PRC being high volume-low value goods and goods

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- moving westward from coastal cities to Xinjiang Uygur (for export to Central Asia) being finished goods, thus limiting the rail cars available for eastbound cargoes;
- (ii) the undifferentiated services provided by thousands of agents and forwarders, 85% of whose income comes from standard transport services and 15% being derived from value-added services;
- (iii) lack of skilled logistics professionals, aggravated by the large number of forwarders, the rapidly increasing trade with the west, and the difficulty of attracting talents from other parts of the PRC; and
- (iv) lack of large and modern logistics centers to optimize picking efficiency.

The challenges related to cross-border trade that Xinjiang Uygur faces are the following:

- (i) the difference in railway gauge used by the PRC and Kazakhstan, which results in the need to transload cargo at the Alashankou–Dostyk border, and thus delays at border crossing;
- (ii) differences in goods classification and descriptions, resulting in errors and consequently, delays during customs clearance; and
- (iii) non-accession of the PRC to the TIR Convention, which limits the access of trucks from Kazakhstan with TIR carnets through border posts like Khorgos.

#### Measures to Improve Transport and Logistics in Xinjiang Uygur

Based on its geography, economic structure, and logistics requirements, the proposed measures to improve Xinjiang Uygur's transport and logistics sectors are divided into five key areas namely Urumqi, as well as the region's northern, southern, eastern, and western zones. Each area has different needs and thus investment mix.

It is recommended that Urumqi establish an international rail logistics park and a south suburb highway logistics park. These central facilities will offer higher efficiency and productivity compared to the numerous small and old warehouses located around the city, while offering dedicated rail and road transport services. The recommendations for the north, south, east, and west zones are detailed in the report.

### Conclusion

These studies have identified strategic directions and some concrete measures that must be taken by the CAREC countries to develop their respective transport and logistics sectors to levels required for them to reap the full benefits such sectors bring. These directions and concrete interventions are numerous and require great sacrifice. They range from investing at unprecedented levels in public infrastructure such as public roads, railways, cargo terminals, and logistics centers, to reforming long-held customs administration processes and procedures, and finance and banking policies. They also include the building up of private—public partnerships in areas that have yet to be explored, and the review and, if warranted, the renegotiation of bilateral and multilateral agreements on cross-border trade and transport.

None of these prescriptions is easy; they all require exceptional will. It is the hope of the teams of consultants that conducted the studies that this will would be harnessed, not only within borders but, just as important, throughout the region. It is only when such will is mobilized can there be hope that the potential for efficient and competitive transport and logistics sectors be realized for the reduction of poverty and the improvement of the living conditions in the region.