

Resource-rich Central Asia Opens to the World

JAMES P. DORIAN

IAN SHEFFIELD ROSI

CHANGZOO SONG

AsiaPacific

ISSUES

Analysis from the East-West Center No. 14 July 1994

The U.S. Congress established the East-West Center in 1960 to foster mutual understanding and cooperation among the governments and peoples of the Asia-Pacific region, including the United States. Principal funding for the Center comes from the U.S. government, with additional support provided by private agencies, individuals and corporations and more than 20 Asian and Pacific governments.

The Center promotes responsible development, long-term stability and human dignity for all people in the region and helps prepare the United States for constructive involvement in Asia and the Pacific.

with the end of the Cold War are the five nations of Central Asia—Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan, and Kyrgyzstan. These new nations, home to 50 million people on an area 40 percent of the size of the United States, are best known in the West as part of the ancient Silk Road trade route that connected the European, Islamic, and Asian civilizations. But beneath the steppes, deserts, and river valleys, abundant energy and mineral resources lie waiting for investment and development. While the potential is vast, pitfalls in exploiting these resources include inadequate transportation and communication, unstable governmental policies, and political and ethnic conflict—including civil wars in Tajikistan and neighboring Afghanistan. Investors must scrutinize geologic and economic data, clarify the roles of partners and the policies of all governmental authorities, and keep a wary eye on environmental and ethnic problems.

Central Asian
resources were
neglected in the
former Soviet Union

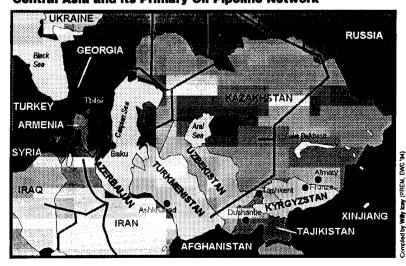
Vast Resources

The vast energy and mineral resources of the five nations of Central Asia were neglected before the December 1991 breakup of the Soviet Union. As a result, many of the republics export mostly agricultural products such as cotton and are in fact dependent upon imported energy and minerals. Central Asian leaders now view their resources as a long-term source of revenue, and the nations, especially Kazakhstan and Kyrgyzstan, are revising investment and taxation codes to woo foreign investors.

Almost all investor interest in Central Asia has been in providing technology and expertise for the development of the region's potentially huge oil and gas fields. Several multimillion-dollar deals have already been made in Kazakhstan and Turkmenistan. Besides oil and gas, the most sought-after resource is gold, which can be developed without heavy investment in roads and rail links, and (assuming favorable contract terms) can earn profits almost immediately. Major joint-venture gold mining deals have been signed in Uzbekistan and Kyrgyzstan. Other precious metals such as silver and platinum are also of interest, followed by some base metals such as copper, molybdenum, lead, and zinc.

Kazakhstan. By far the largest and second-most populous Central Asian country, Kazakhstan has a 3,000-mile-long border with Russia to the north and a border with China to the east. Kazakhstan possesses the region's largest mining industry, and in

Central Asia and its Primary Oil Pipeline Network



1993 accounted for 5.8 percent of the oil and 21 percent of the coal extracted in the 15 nations of the former Soviet Union. Kazakhstan also has 15 to 20 world-class deposits of gold that have not yet been exploited because they are in remote areas. The republic possesses nearly all other types of precious metals as well as substantial amounts of aluminum, chrome, copper, gold, iron-ore, lead-zinc, molybdenum, titanium, and tungsten. Kazakhstan also produced more than one-quarter of the USSR's agriculture. But it is the more than 15 billion barrels of oil and 86 trillion cubic feet of natural gas that has earned Kazakhstan the nickname: "the new Kuwait."

Turkmenistan. Also aspiring to be the Kuwait of Central Asia is Turkmenistan, a primarily desert country, the least populous in Central Asia, that forms the southwest corner of the former USSR bordering Iran and the Caspian Sea. Turkmenistan contains 6 percent of the former Soviet Union's natural gas reserves, second only to Russia, and in 1993 accounted for nearly 8.5 percent of the natural gas output of the nations of the former Soviet Union. Oil production began a slow decline during the 1980s, but even so nearly one hundred wells were added and more than 20 percent of reserves are now in production. Turkmenistan produced only 4.4 million metric tons of oil in 1993, far from the peak level of 16 million produced two decades ago. Turkmenistan also has the world's third largest deposits of sulfur. As with several other Central Asian countries, cotton remains an important export crop.

Uzbekistan. The most populous Central Asian country, Uzbekistan is the geographical center of the region and the hub of its transport and power systems. One-third of the country's population lives in the fertile Fergana Valley, which has been home to Islamic civilization for centuries. Uzbekistan's economy is dominated by cotton production—with disastrous environmental consequences including an acute water shortage—but the republic also contributed one-quarter of the former Soviet Union's annual gold output. Uzbekistan, like Kazakhstan and Turkmenistan, has substantial amounts of oil and natural gas. There are also deposits of uranium, silver, copper, lead, zinc, coal, and tungsten.

Analysis from the East-West Center

Tajikistan. The smallest republic, Tajikistan, is a mountainous nation bordering Afghanistan and China, and is the only one with a language and cultural heritage that is predominantly Persian, not Turkic. It has been the site of gold mining for centuries, and authorities hope to increase gold output to four metric tons in 1994 from just over two metric tons in 1990. Tajikistan also contains untapped silver and gemstone deposits and rare elementsincluding 14 percent of the world's uranium reserves—as well as radium, arsenic, and bismuth. The primary industrial product is aluminum—during Soviet rule, the country had the fourth largest aluminum plant in the world. Its potential for hydroelectric power ranks second only to Russia in the former USSR (as much as 300 billion kilowatt hours annually; only 16.5 is now produced).

Besides oil and gas, the resource of most immediate interest is gold

Kyrgyzstan. Like Tajikistan, Kyrgyzstan is a very mountainous country, borders China, and has great hydroelectric potential. Kyrgyzstan has the smallest mining and energy industry, but its gold deposits, which produced 2.5 metric tons in 1992, include what may be the largest gold mine in former Soviet territory, Kumtor near the Chinese border. The country also has sizable reserves of mercury and antimony, smaller reserves of tin and tungsten, rare strategic metals such as cesium, yttrium, and lanthanum, and significant coal production. Of all the republics, it has made the most progress toward building a democratic political system.

The Russian/Soviet Legacy

Under Russian domination since the mid-nineteenth century, Central Asia was tightly integrated into the Russian empire and, later, the Soviet Union, supplying agricultural and mineral raw materials. The relationships stemming from this period are hampering contemporary development in a number of ways.

First, many of the resources found in Central Asia are found in equal or greater abundance in other parts of the Soviet Union, and as a result the Central Asian resources tended to be neglected. The oil and gas pipelines of the USSR, for example, were

developed with the oil fields of Western Siberia in mind, not Central Asia. Under Soviet domination, most gold production came from Soviet Far East, so Central Asia's gold supply was neither aggressively explored nor developed.

Second, trade followed a colonial pattern under which raw materials were shipped from Central Asia to Russia and finished products were shipped back to the republics. Oil-rich Kazakhstan has had to rely on Russian crude for nearly three-quarters of the output for its refineries, since any domestic oil was shipped to Russia. Central Asia's mining industries rely on Russian spare parts and machinery, and Turkmenistan imports 60 percent of its food from Russia. As a result, the Central Asian states are highly dependent upon the Russian economy and will undoubtedly remain so for many years until their economies become larger and more diversified.

Third, the development that did occur sometimes led to ecological disaster. The cultivation of cotton using massive amounts of fertilizers and pesticides ruined land and poisoned the water table, leaving environmental health problems and thousands of tons of toxic waste. The extensive irrigation for this cotton monoculture, combined with rising population, has led to a critical water shortage. It has also caused the Aral Sea to shrink, producing thousands of miles of wasteland, blowing toxic salt dust clouds across hundreds of miles, and even altering the region's climate.

The New Geopolitics

As the Central Asian republics try to wean themselves from Russian dominance, there has been intense speculation about where they will turn for help and guidance. Some have forecast a battle between Turkey and Iran to provide a secularist or Islamist model for the future. Turkey has taken advantage of its ethnic and linguistic links to most of the countries to promote itself as a model, arguing it has successfully managed the transition from a central command economy to a free market system that Central Asia is attempting. Iran stresses its Islamic path and ethnic ties as well as presenting its northern region as an ideal market for Central Asian exports, especially oil. Pakistan also stresses historical and ethnic relationships, and India hopes to build upon its long-standing ties through trade and contributions to infrastructure development.

A surprising competitor for influence in Central Asia is China, which is calling for a new "Silk Road" to link the regions in the next century and has begun constructing such a link with rails and pipelines. Trade between China's Xinjiang Uygur Autonomous Region and the Central Asian republics has grown rapidly, and China has established 180 companies or joint ventures in Kazakhstan. There are tensions as well as ties; Kazakhs protest Chinese nuclear tests near the border, while China protests the sanctuary Kazakhstan and Kyrgyzstan afford Uygur militants seeking independence of Xinjiang (which they call "Eastern Turkestan").

The Russians have recently taken steps to reassert their authority over their former empire—what they call their "near abroad"—a process aided by the strong showing of ultranationalists in last year's regional elections. The Russians have claimed the right to defend the borders of the newly established Commonwealth of Independent States (CIS), made up of former Soviet states, and are stationing troops along the Afghanistan border in Tajikistan and along the Iranian border in Turkmenistan. More disturbing to the other republics is Turkmenistan's agreement to allow dual nationality for both Russians and Turkmens. Similar proposals have been adamantly resisted by Kazakhstan, Uzbekistan, and Kyrgyzstan. The Central Asian nations, however, have reacted cautiously to Russia's moves, afraid of prompting their educated and trained Russians to move back across the border in even greater numbers.

The Central Asian countries are CIS members but have also been seeking ties with the West to help offset Russian domination. Kazakhstan and Kyrgyzstan have just joined NATO's "Partnership for Peace" allowing military and political cooperation without security guarantees. The United States has tripled its aid to Kazakhstan, which will receive \$311 million next year, and Kazakhstan has promised to return its nuclear weapons to Moscow. The Central Asian nations joined Turkey, Iran, and

Pakistan as members of the Economic Cooperation Organization (ECO) of Muslim nations. Finally, the two largest republics, Kazakhstan and Uzbekistan, although seen as rivals for leadership in Central Asia, have agreed along with Kyrgyzstan to create an economic and defense union.

Investment Opportunities

The region's vast geologic potential offers a wide range of opportunities for development, although there are major problems in exploiting them. Investment opportunities include:

- Modernization of existing smelting and refining facilities, including advanced concentrators to curtail discharge during ore processing
- Development of a regional pipeline system to distribute natural gas resources from wells to surrounding areas and neighboring republics
- Advanced gold recovery technologies (Uzbekistan, for example, loses at least 10 percent of its yearly gold production through waste due to outdated, inefficient extraction technology)
- Pollution monitoring and controlling devices to reduce emissions at power plants and processing facilities (needed to satisfy environmental requirements of international financing agencies, Western investors, and an increasingly strong local environmental movement)
- Geological and remote sensing technologies to discover "blind ore deposits" that are buried at great depth
- Surveying equipment to locate shallow sea oil
- Improved physical infrastructure and telecommunications network
- Managerial and accounting training and personal computers

Some of the countries have done more to attract foreign business than others. Kazakhstan issued a draft mining code in May 1992 covering ownership rights, environmental protection, foreign investor privileges, permit and registration procedures, dispute settlement, and international cooperation. Kyrgyzstan in April 1994 gave prospecting companies the rights to develop new deposits. Uzbekistan, after

Russia, Turkey, Iran, and even China are vying for influence in Central Asia a rocky start, is putting together English brochures and hiring foreign consultants to attract investment.

Kazakhstan's efforts have borne fruit in at least two multibillion-dollar deals with major oil and gas companies. In 1992 U.S.-based Chevron signed a highly publicized agreement to spend \$20 billion over 40 years to develop Kazakhstan's world-class Tengiz oil field. Last year Kazakhstan signed a preliminary three-year agreement with seven international companies to develop oil and gas reserves in the Caspian Sea. Many more joint ventures are under consideration or already in progress.

Foreign involvement in Turkmenistan's energy industry has so far been limited, largely due to questions about regional security, given its geographical position bordering Iran and Azerbaijan. Turkmenian officials have recently concluded several new oil and gas agreements with Iran. Exploration and oil-extraction joint ventures have also been established with Bridas of Argentina, Larmag of the Netherlands, Eastpak of the United States, and Tecnologie Progetti Lavori of Italy.

Nearly all major mining companies in North America, Europe, and Asia are considering gold mining in Central Asia. Minproc Corporation and Chilewich International Corporation of the United States have begun a joint project with the Kazakh government to develop the Bakyrchik gold mine in the northeastern corner of the republic. Kyrgyzstan at the end of May 1994 approved a \$270 million gold mining deal with Canada's Cameco Corporation for its Kumtor deposit. A \$100 million joint-

venture agreement with the Morrison Knudsen Corporation of Idaho was signed last year to develop the Dzherui deposit in the west, the reserves of which were estimated at 2.6 million ounces.

Uzbekistan's government and oil and gas industry are offering foreign firms the opportunity to submit competitive bids on acreage for exploration. The largest non-fuels joint-venture agreement involves U.S.-based Newmont Corporation, which has pledged to invest up to \$105 million in the production of gold from stockpiled materials from the Muruntau mine, also one of the world's largest gold mines. This project was the first in the former Soviet Union to win cofinancing from commercial banks (Barclays and the European Bank for Reconstruction and Development).

Investor concerns

The region presents great opportunities but also great dangers for investors. Most of the republics suffer from problems such as economic depression, corruption, ethnic tensions, and nationalism (sometimes accompanied by increasing religious fervor). The major concerns of investors are (1) inadequate infrastructure such as roads, rail links, and communications; (2) unclear or changing policies, corruption, and organized crime; and (3) ethnic unrest or other conflicts that may destabilize the country or threaten ownership rights.

Infrastructure. The new Central Asian countries have inadequate road, rail, and pipeline infrastruc-

Multibillion-dollar oil and gas projects are underway in Kazakhstan

Energy and Mineral Resources of Central Asia

Republic	Population 1993 (millions)	Area (square miles)	GDP at Current Prices 1993 (Rb billion)	Proven Oil Reserves (MMB)	Crude Oil Prod. 1993 (MMB)	Proven Gas Reserves (BCF)	Natural Gas Prod. 1993 (BCF)	Coal Prod. 1993 (MMT)	Gold Prod. 1991 (MTN)
Kazakhstan	17.2	1,049,200	23,000,000	15,622	167.67	86,000	232.40	112.0	12.19
Kyrgystan	4.6	76,642	2,200	183	0.73	210	0.0	1.7	2.3
Tajikistan	5.7	54,019	1,663	37	0.0	250	3.47	0.2	2.53
Turkmenistan	4.0	188,417	1,960	1,533	32.08	96,000	2,261.53	0.0	0.0
Uzbekistan	21.7	172,700	10,131	840	29.16	64,000	1,560.87	3.8	57.96

Rb—Rubles MMB—Million barrels BCF—Billion cubic feet MMT—million tons MTN—Metric tons

Sources: Population Reference Bureau, Inc., 1993; The Economist Intelligence Unit, 1994; World Bank, 1993; and East-West Center files, 1994.

ture. Mining companies sometimes cannot fly in and out of Uzbekistan or Kazakhstan or even to Moscow due to periodic petroleum shortages. Telecommunications development is badly needed, since some republics have connections only through Moscow or other countries. Modern water systems are needed to replace the wasteful ones that aggravate the already dire water shortage in Uzbekistan.

Most important, landlocked Central Asia needs transportation links to other nations, because oil and gas pipelines still go through Russia and roads and rail links to other points are inadequate. Russian officials are now charging hard currency for shipment on Russian vehicles of ores and concentrates through their territory to the coast or Europe. New road, rail, and pipeline links from Central Asia to the outside world could follow several routes—west through Iran and Turkey (or Georgia and Azerbaijan) to the Black Sea or the Mediterranean, south through Iran to the Persian Gulf or through Afghanistan and Pakistan to the Indian Ocean, or east through China to the Pacific. All routes, however, pass through vast, remote, and perhaps politically unstable regions.

A number of pipeline projects to carry Central Asia's resources west are in the works or have been proposed. Kazakhstan is negotiating with Turkey and Iran on construction of an oil pipeline to link the country with Europe; other routes have been proposed through Georgia or Armenia. Agreement was reached in April on a gas pipeline from Turkmenistan through Iran and Turkey, a possible precursor to an oil pipeline network along the same route. A railroad from Iran to Turkmenistan is to be completed by March 1996. There are, however, political difficulties with gaining Western financing for projects through Iran, either west to Turkey or south to the Persian Gulf. The proposed oil pipeline through Iran is one of the biggest issues in U.S.-Kazakh relations, and Iran in May accused the United States of trying to convince Turkmenian officials to have their gas pipeline pass through Azerbaijan and Georgia rather than Iran and Turkey.

To the south, a rail line through Afghanistan is to connect Kazakhstan to Pakistan's port cities of

Karachi and Qasi. Many countries are working on the road and rail line across Pakistan serving Kazakhstan, Tajikistan, Kyrgyzstan, and western China. Turkmenistan is also considering a gas pipeline through Afghanistan to Pakistan. Finally, an eastern outlet may be forming now that China's Trans-Eurasian Railway is complete. China and Turkmenistan plan to build a gas pipeline, and are considering an oil pipeline. Japanese engineers are looking at proposals for an oil pipeline from Uzbekistan through Kazakhstan and China to the Pacific.

Unstable policies. The biggest concerns to companies investing in Central Asia are unstable tax, mining, and environmental policies that jeopardize investments. The November 1993 collapse of the "ruble zone," as Central Asian countries decided to create their own currencies rather than rely on the Russian ruble, is forcing the republics to devise and execute their own economic policies. But caution is needed, since the investment environment can be tarnished by moves such as Kazakhstan's unexpected 60-percent hike in personal income taxes—landing it among the 10 highest rates in the world.

Kazakhstan and Kyrgyzstan, relatively stable domestically, have launched extensive privatization plans. Kyrgyzstan's program had covered about 30 percent of the country's firms by the end of 1993. Kazakhstan recently launched the region's most ambitious program, planning over the next year to sell 3,500 medium-sized state enterprises that account for 70 percent of the country's businesses and 30 percent of its entire economy. The country's road to democracy has been less smooth; Kazakhstan's March 1994 election was tainted by accusations of ballot stuffing and proxy voting. Moreover, privatization brings its own problems of unemployment, inflation, and the rise of organized crime.

Other republics have been slower to change their political and economic systems. Uzbekistan is under the tight control of the authoritarian Popular Democratic Party led by President Islam Karimov, a former communist who has suppressed opposition groups. Turkmenistan remains firmly under the rule of its former communist elite. Tajikistan's brief experiment with democracy ended with a hard-line

New pipelines
may carry Central
Asia's oil and gas
to the west, south,
and east

takeover, and foreign investment has been forestalled by the current civil war.

Ethnic problems. Investors may be most concerned about the possibility of conflict among the 100 ethnic groups in Central Asia: native Muslim Central Asian peoples (Kazakhs, Kyrgyz, Uzbeks, Tajiks, Turkmens, Karakalpaks, and Dungans), Russians (and other European settlers), and peoples who were brought to the area by Soviet authorities during the Stalinist period (Germans, Crimean Tatars, Koreans, Armenians, Chechens, and Meskhetian Turks). The Russians, mostly technicians and other professionals who came after the 1917 Revolution, make up onefifth of the population. They fear that the growing nationalism since the Soviet Union's demise may become increasingly anti-Russian as the economic situation deteriorates. Kazakhstan in particular fears secessionist sentiment among Russians clustered in the north along the Russian border.

The ethnic clashes so far, however, have been among Central Asian groups themselves. Some have been rooted in competition over jobs, land, and other types of natural resources, especially water, in Uzbekistan's densely populated Fergana Valley, where many of the region's ethnic groups are present. In June 1989 Meskhetian Turks, who had been exiled to the area by Stalin, were attacked by Uzbeks and Tajiks. Another skirmish followed a year later between Uzbeks and Kyrgyz in Osh. There is particular concern about Tajik-Uzbek conflict, given serious tensions between the two groups and their proximity. One million Tajiks live in Uzbekistan, while both Tajikistan and Kyrgyzstan have sizable Uzbek populations in their parts of the Fergana Valley.

The ethnic dimensions of the civil war in Afghanistan have raised fears that such conflicts might spread to Central Asia. The contending factions include Uzbeks, Turkmens, and Tajiks—in fact, there are more Tajiks in Afghanistan than in Tajikistan—who receive aid from their brethren in neighboring states. There are fears that such conflicts could spill over the borders and engulf the region in ethnic, religious, and ideological conflict.

A more immediate problem is the civil war in Tajikistan, which began when former communist

leaders who were elected in 1991, but forced by democratic and Islamic protests to share power, crushed their opponents in a November 1992 parliamentary coup. Islamist rebels based in northern Afghanistan have continued the fight, which has so far claimed at least 30,000 lives. Peace talks began in Moscow this spring. The Tajik government originally portrayed the war as a conflict between fundamentalists and secularists. Other Central Asian leaders, espousing a secular model of development, have expressed fears about the destabilizing potential of Islam; some have accused them of using renewed Islamic fervor as a bogeyman, playing to the fears of the Russian population and the West.

Foreign investors fear not only violence and disruption stemming from such inter-ethnic rivalries. They are also concerned that ethnic or autonomous regions may claim ownership over mineral resources in their areas.

Reducing Investment Risks

There are a number of ways for companies to reduce the risk of dealing in Central Asia:

- Ensuring that the Central Asian groups involved have the authority they claim by closely scrutinizing the local company's records. Some new semiprivate, semistate organizations promise information, expertise, or permit approvals that they cannot deliver. Investors must be sure the groups they deal with have the legal authority and financial ability they claim.
- Defining as precisely as possible the roles, capital contributions, and managerial contributions of each partner. Companies have signed contracts and then discovered that the local partner was unaware of the financial commitment required or the fact that the foreign company was to have control over managers.
- Seeking managerial control in the early years of a joint venture—the most difficult period for getting a project up and running.
- Setting aside some portion of the product for export to ensure a continuous flow of hard currency, which is especially important during

Civil wars in Tajikistan and Afghanistan may engulf the region

- Periods of hyperinflation or changing currencies.
 Reaching agreement with local as well as national authorities on costs such as user fees. Sometimes contracts are signed by the national government but local authorities then add taxes or fees for using roads. A two-track system of negotiations with both national and local authorities is wise.
- Making an on-site appraisal of costs of project development, availability of skilled labor, and environmental conditions such as availability of water and the need for pollution cleanup.
- Reexamining and recalculating geologic and economic data. Central Asia's mineral and energy resources were identified using outdated Soviet technology and without considering whether it was economically feasible to develop them, since the USSR was more concerned with self-sufficiency and industrial need than with economic feasibility. New exploration technologies such as remote sensing and drilling should lead to more discoveries and development.
- Seeking innovative investment methods. The
 Uzbek government, for example, has provided
 Newmont with statistics about the grade and size
 of major and minor deposits. If these turn out to
 be incorrect, the company can seek compensation, or even back out of the project.

Conclusions

With the exception of Turkmenistan, all Central Asian economies are expected to experience a shortage of income this year leading to high budget deficits and chronic inflation. Any contribution from energy and mining will be gradual, the effects felt over years or even decades. But major foreign investment can be a useful injection for these economies.

Tremendous obstacles present themselves to foreign investors in Central Asia, and energy and mining companies with experience operating in developing companies may fare best. But such conditions are widespread in the huge areas of the globe newly opened to investment. Inexperienced or risk-averse firms may come to realize that the choice is staying out of these huge markets or learning to accept and minimize the risks. Central Asia represents one of the world's last great frontiers for minerals exploration and development. Foreign investors need to be aware of the pitfalls of investing in the region and do their homework carefully, but those willing to take on the challenges may ultimately be well rewarded.

About this Publication

The AsiaPacific Issues series reports on topics of regional concern. The contents of this paper may be reproduced for personal use.

The views expressed in this series are those of the authors and not necessarily those of the East-West Center.

For additional copies or other information, please contact the Office of Public Programs, East-West Center, 1777 East-West Road, Honolulu, HI 96848. Telephone: (808) 944-7197 Facsimile: (808) 944-7376

Series Editor: Elisa W. Johnston

Available AsiaPacific Issues

No. 9, "Pacific Summit in Seattle: Testing Clinton's Asia-Pacific Policy," by Richard W. Baker, November 1993.

No. 10, "Looking for Pollution Where the People Are," by Kirk R. Smith, January 1994.

No. 11, "UN Peacekeeping Missions: The Lessons from Cambodia," by Judy L. Ledgerwood, March 1994.

No. 12, "U.S.-Japan Trade: Get Smart, Not Just Tough," by Paula Stem, April 1994.

No. 13, "Marketing the Rainforest: 'Green' Panacea or Red Herring?" by Michael R. Dove, May 1994.

About the Authors

Dr. James P. Dorian, a specialist on mining and investment in the former Soviet Union, is a fellow with the East-West Center's Program on Resources: Energy and Minerals and coordinates the Center's Central Asia and Caucasia Energy and Minerals Project.

Telephone: (808) 944-7548 Facsimile: (808) 944-7559

Ian Sheffield Rosi is an East-West Center degree fellow and an M.A. candidate in Asian Studies at the University of Hawaii at Manoa.

Changzoo Song is formerly an East-West Center degree fellow and currently a PhD candidate in Political Science at the University of Hawaii at Manoa.