ASIA AND THE PACIFIC

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The countries of the Asia and Pacific region possess a large mineral resource base and are significant suppliers for a variety of minerals for both regional and world markets. The developing and the industrialized countries of the region recognize that mineral resource development is an important component of their future economic prosperity. Some of the more notable developing nations in the region were China, India, Indonesia, Papua New Guinea, the Philippines, and Vietnam. The industrialized countries of Asia-Hong Kong, Japan, the Republic of Korea, Singapore, and Taiwan-have few domestic mineral resources. Led by Japan, the economies of each are dependent on imported raw materials, are important in regional and international commerce, and are economically and technologically advanced. Australia, China, and India dominated the commercial mineral exploitation of the region. Indonesia and Mongolia have become increasingly active in coal, copper, and gold extraction. In 1999, the region was slowly recovering from the 1997 Asian economic crisis.

Country Review

Australia.—Australia continued to be a major player in the international minerals marketplace. The Australian minerals industry, the largest primary sector of its economy, is heavily export-oriented, with about 80% of the value of production destined for international markets. It has known reserves of major minerals that are adequate for both domestic demand and overseas marketing. Primarily due to export markets, Australia ranks among the world's leaders of alumina, bauxite, copper, diamond, gold, iron ore, lead, lithium, manganese, mineral sands (titaniferous minerals and zircon), nickel, salt, silver, tantalite (tantalum), tin, uranium, and zinc production.

In 1999, the Australian Government passed legislation for a goods and services tax (GST) of 10% to replace the wholesale sales tax effective July 1, 2000. The GST will be levied at 10% of the value added at each point in the production and distribution chain for all goods and services including imports, with some exceptions.

Although less than 0.02% of Australia's land surface has been affected by mining activities, care and maintenance of the environment was a prominent and recurrent concern of the Commonwealth and State governments. Mining companies had to provide a program of care and management of the environment, including subsequent rehabilitation, prior to being granted permission to mine.

Burma (Myanmar).—Burma's (Myanmar's) mining sector remained depressed owing to outdated technology and equipment and to lack of capital and spare parts. Copper production by the joint-venture company Myanmar Ivanhoe Copper Company Ltd., however, reached a new plateau when the Monywa copper project successfully completed its firstphase full-year operations of open pit mining and solvent extraction-electrowinning.

China.—China was the world leader in proven reserves of antimony, barite, ilmenite (titanium), magnesite (magnesium), rare earths, and tungsten. China also had large resources of low-grade iron ore and important resources of other mineral commodities, such as coal, fluorspar, and graphite; estimates were based upon known production and export capabilities.

In 1999, the Chinese Government issued several supplemental mineral laws and regulations, including provisions on coal management; temporary management methods on mineral resources exploration, registration, and evaluation; regulations to govern the administration for the exploitation of mineral resources; provisions on examination and approval of land use for construction; method for management of idle land; regulations for implementation of the land administration law of China; methods on foreign-funded commercial business for trial implementation; and contract law. The implementation of new laws and regulations should significantly reduce the time for domestic and foreign investors to sign contracts.

The Government established four asset management companies, which were similar to Resolution Trust Corp. of the United States, to assume and resolve debts between state-owned banks and State-owned enterprises in China. Xinda (Cinda) Asset Management Co. would tackle the unresolvable loans of the China Construction Bank. Hua Rong Asset Management Co. would handle the nonperforming loans for the Industrial and Commercial Bank of China. Great Wall Asset Management Co. would handle nonperforming loans for the Agricultural Bank of China. China Dong Fang (Orient) Asset Management Co. would assess the unresolvable debts for the Bank of China. These banks had been assigned by the Government to mining industries. The asset-management companies planned to raise funds to buy the nonperforming loans of the banks in exchange for stakes in debtor ventures; their profits were anticipated to come from issuing shares in the domestic stock market or selling their stakes to new investors.

India.—A joint collaboration project between the Geological Survey of India and Bureau de Recherches Geologiques et Minieres of France discovered a new type of platinum-group metals mineralization in the Baula-Nuasahi chromite belt in Orissa. A total resource of 14 million metric tons at a cutoff grade of 0.5 part per million platinum and palladium was estimated. Geologic indications suggested that the total resource would be larger in this prospect. The large width of the mineralization and the easy access to the ore through the existing infrastructure from chromite operations were considered to be positive factors for further development.

The Government decided to sell a 51% interest in Bharat Aluminium Co. Ltd. (Balco) through a global tender. A public offer would be made in the domestic market at a later date to reduce its holdings to 26%. Balco had a 100,000-metric-tonper-year (t/yr) primary aluminum smelter and a 200,000-t/yr alumina refinery at Korba in Madhya Pradesh. The company planned to spend \$225 million in modernization and expansion that would include development of new bauxite mines and building a 40,000-t/yr cold rolling mill and strip casting facilities, as well as expansion of a captive powerplant. National Aluminium Co. Ltd. (Nalco), Kudremukh Iron Ore Co. Ltd. (KIOCL), and Hindustan Zinc Ltd. (HZL) also were targeted for the selloff of equity of public sector undertakings. The Nalco sale would be limited to 30%, and for KIOCL, a stake of 30% was up for sale. Sale of 25% of HZL's shares held by the Government was recommended to reduce the Government's holding to 51%. The Government also recommended the privatization of Ferro Scrap Nigam, Minerals and Metals Trading Corp., Metal Scrap Trading Corp., Sponge Iron India Ltd., and the engineering consulting firm Mecon.

The Government also decided to split Hindustan Copper Co. Ltd. into two companies and sell them off to strategic buyers. In the first phase, the 31,000-t/yr Khetri Smelter in Rajasthan and the 60,000-t/yr Taloja continuous cast copper rod plant would be converted into separate companies. In the second phase, the Ghatsila Smelter in Bihar and the Malanjkhand mining complex in Madhya Pradesh would be restructured and then sold to a strategic buyer.

Indonesia.—Concerns about political uncertainties continued to deter foreign investment. One such concern involving disputes between local government and foreign investors was the tax claim against Newmont Mining Corp.'s (United States) Minahasa operation in Sulawesi. In 1999, the Indonesian Parliament passed the Regional Autonomy Law No. 22/99 and the Fiscal Decentralization Law No. 25/99. These laws gave the provincial and local governments a greater share of the natural resource wealth within their borders. The legislation included revenue-sharing formulas for oil, gas, and other natural resources. These formulas specified that a fixed share of natural resource revenues would be sent to district and to provincial governments. Areas that were not rich in natural resources would be awarded at least 25% of the revenues collected by the Central Government under these laws. No district or province would experience a decline in revenues from the Central Government. A new Hazardous Waste Law No. 18/99 was passed by the Parliament that made every current (1999) operating mine in Indonesia theoretically illegal. A Partial Revisions Law No. PP 85/99, which regulated the disposal of hazardous mine wastes, was introduced as an amendment to Law No. 18/99.

The Regional Autonomy Law and the Fiscal Decentralization Law required mining companies to create more standards for community development and environmental protection for areas around their mining operation. Under the new laws, international mining companies were required to pay more attention to growing nationalism, to village rights to ancestral properties, and to local customs and expectations. In the past, mining companies depended on their Contract of Work (COW) with the Central Government as their guide and legal framework to operate in Indonesia. When local social matters at mine sites conflicted with COW's, companies reported to the Ministry of Energy and Mineral Resources (DME) for resolution. Law No. 22/99 would place COW's under the jurisdiction of the provincial and local governments rather than that of the Central Government. The Indonesian Government believed that the decentralization would allow local governments to act with respect to local problems in the mining sector. Law No. 25/99 required mining companies to pay royalties to provincial and local governments where its mining operations were located. The new procedures confused and overburdened many mining companies. The DME was preparing a ministerial decree to implement the law in late 2000. The decree would establish procedures for provinces to issue mining permits for investment, exploration, and production in areas lying within two or more districts and offshore within 19 kilometers of their coasts. Local governments would have the right to sign their own COW's with mining companies.

Japan.—Japan remained the major mineral processing country in the Asia and the Pacific region. It played an important role in supplying ferrous and nonferrous metals, fabricated metal products, and industrial mineral products to the construction and manufacturing industries of China, Indonesia, the Republic of Korea, Malaysia, Thailand, and Taiwan. In 1999, Japan had expanded its copper-, nickel-, and zinc-refining capacities to meet increased regional demand for these commodities. It also had increased its investments in overseas development projects of nonferrous metal mines in Australia, Canada, Chile, and Indonesia to secure long-term raw material supply for it copper, nickel, and zinc refineries.

Malaysia.—Malaysia's economy recovered considerably in 1999 owing to increased exports of manufactured electronic products. The mining sector also recovered slightly owing to higher prices of crude oil and tin.

Mongolia.—Copper and gold mining continued to dominate Mongolia's mining sector. Despite low prices of copper and gold, production remained high in 1999 because of their important contribution to export earnings.

Papua New Guinea.—Papua New Guinea's producing mines centered on four very large operations, one mediumsized enterprise, and a large small-scale sector that included several thousand mechanized alluvial gold mines and primitive manual gold panning-sluicing workings by numerous individuals. The major operations were the Ok Tedi coppergold mine in Western Province, the Lihir gold mine in New Ireland Province, the Misima gold-silver mine in Milne Bay Province, and the Porgera gold mine in Enga Province. The Tolukuma gold-silver mine in Central Province also was a significant although smaller producer. Projects in the petroleum sector included Gobe Main, Kutubu, Moran Central, and SE Gobe oilfields in Gulf and Southern Highlands Provinces. These operations produced virtually all the country's minerals and crude petroleum, primarily for export.

Vietnam.—Coal and crude petroleum were two major mineral commodities produced in Vietnam. All crude oil was for export to earn foreign exchange. Because of lower exports resulting from relatively weak demand in Japan for anthracite, coal production was reduced substantially during the year. In the industrial mineral sector, the cement industry capacity expanded considerably to meet the increasing domestic demand.

Production

In many of the countries of the Asia-Pacific region, other significant resources are including tin and associated titanium in Malaysia; copper, fluorspar, gold, and molybdenum in Mongolia; nickel in New Caledonia; gold and ironsand in New Zealand; magnesite in North Korea; copper and gold in Papua New Guinea; chromite, copper, and gold in the Philippines; and gemstones in Sri Lanka. Economic mineralization also may exist in Cambodia, Laos, and Thailand; the mineral potential, however, has not been evaluated fully in these areas. Overall, the region lacks large resources of petroleum: nevertheless, oil and gas occurs throughout the region, and commercial quantities are recovered in Australia, Brunei, Burma, China, India, Indonesia, and Malaysia. World-classsize coal deposits are found in Australia, China, India, and Mongolia. There also is coal in Indonesia, which was becoming a major world exporter, New Zealand, North Korea, and Vietnam.

The region was a world-class producer of mined commodities and value-added mineral products. It produced 60% or more of the world's output of barite (64%), ilmenite (60%), refined tin (70%), tungsten (80%), and refined zinc (86%). Between 43% and 68% of the world's output of alumina (43%), bauxite (51%), cement (58%), fluorspar (57%), graphite (68%), iron ore (44%), and pig iron (45%) came from the area. In addition, the region accounted for about 20% or more of the world's production of aluminum metal (23%), mined and refined copper (19% and 23%, respectively), gold (30%), mined and refined lead (43% and 49%, respectively), mined manganese (59%), mined nickel (36%), salt (26%), steel (41%), and mined zinc (37%).

Australia, China, Japan, and the newly industrialized economies of Asia and the Pacific continued to have important roles in the consumption of minerals and materials. Japan was by far the largest single consumer of fuels, minerals, and metals in the region. Most of Japan's consumption of raw materials was for the manufacture of finished goods for both domestic consumption and export. China also was a large consumer of fuels, minerals, and metals—largely end-products intended for internal use. Per capita consumption of minerals continued to be very low in China.

In terms of quantity of minerals consumed, Japan ranked first, followed in order by China, the Republic of Korea, Taiwan, and India. However, in terms of demand growth rate, many of the countries that compose the Association of Southeast Asian Nations (ASEAN)—Brunei, Indonesia, Malaysia, the Philippines, Singapore, and Thailand—ranked the highest in the region. The high growth in demand for base metals was attributable to the continuing growth of their economies and to the investment by Japan, the Republic of Korea, and Taiwan in manufacturing plants in the ASEAN countries.

Major Publications

British Sulphur Corp. Ltd., London: Nitrogen, bimonthly. Phosphorus and Potassium, bimonthly. Sulphur, bimonthly. Cahners Business Information, New York: American Metals Market, daily Far Eastern Economic Review, Hong Kong: Asia Yearbook, annual. Review, weekly. International Lead and Zinc Study Group (ILZSG), London: ILZSG annual report. International Monetary Fund, Washington, DC: International Financial Statistics, monthly and annual. Institution of Mining and Metallurgy, London: Transactions, published every 4 months. Journal of the Institution of Mining and Metallurgy, monthly. Informa Business Publishing, London, England: International Bulk Journal, monthly. Intertec Publishing Corp., Chicago, Illinois: Engineering and Mining Journal, monthly. Metal Bulletin Plc, London: Metal Bulletin, semiweekly Metal Bulletin, Monthly. World Mining Equipment, monthly MIIDA Ltd., London: Tin International, monthly. Mining Journal Ltd., London: Mining Journal, weekly. Mining Magazine, monthly. Mining Annual Review. PennWell Corp., Tulsa, Oklahoma: International Petroleum Encyclopedia, annual. Oil & Gas Journal, weekly. Review Publishing Co. Ltd., Hong Kong: Asia Yearbook, annual. Far Eastern Economic Review, weekly. United Nations Economic and Social Council, New York: Periodic country reports by the Economic and Social Commission for Asia and the Pacific. United Nations Statistical Office, New York: U.N. Trade Statistics and Energy Statistics Yearbook. U.S. Department of Commerce, U.S. Census Bureau, Washington, DC: U.S. Trade Statistics. World Bank, Washington, DC: Bank news releases.

TABLE 1 ASIA AND THE PACIFIC: PRODUCTION OF SELECTED MINERAL COMMODITIES, 1999

(Thousand metric tons unless otherwise specified)

								Cop	per	Gold			
		Aluminum				C	Coal	Mine, Cu	Refined,	mine, Au			
Country	Bauxite	Alumina	Metal	Barite	Cement	Anthracite	Bituminous	content	primary	Fluorspar	content 1/	Graphite	
Afghanistan				2	116		190	5					
Australia	48,416	14,532	1,718	12	6,500		294,000	735	334		301		
Bangladesh					450								
Bhutan					150		69						
Brunei													
Burma				25	338		40	27	27		(2/)		
Cambodia					300								
China	8,500	3,840	2,620	2,800	573,000	230,000	820,000	500	840	2,400	170	280	
Fiji					95						4		
Hong Kong					1,387								
India	6,200	1,900	550	600	90,000		277,493	34	200	1	2	145	
Indonesia	1,116		100		22,500	72	72,618	740			130		
Japan		335	11		80,120		3,906	1	1,342		9		
Korea, North				70	16,000	50,000		14	20	25	5	33	
Korea, Republic of					48,157	4,197			450		24	(2/)	
Laos					9		175						
Malaysia	223			11	10,105		309	4			3		
Mongolia					104		4,952	127	2	154	10		
Nepal					290		17						
New Caledonia													
New Zealand			307		950		3,500				11		
Pakistan	11			17	9,300		3,461			(2/)			
Papua New Guinea								188			66		
Philippines					12,556		1,200	37	148		31		
Singapore					2,000								
Sri Lanka					976							5	
Taiwan					18,283		92				(2/)		
Thailand				68	29,500					13			
Vietnam					12,300	8,500							
Total	64,500	20,600	5,300	3,600	940,000	290,000	1,480,000	2,400	3,400	2,600	770	460	
Share of world total, percent	51 3/	43	23	64	58 3/	99	46	19	23	57	30	68	
United States	NA	4,928	3,779	434	85,952	5,231	929,269	1,600	1,890		341		

See footnotes at end of table.

TABLE 1--Continued ASIA AND THE PACIFIC: PRODUCTION OF SELECTED MINERAL COMMODITIES, 1999

(Thousand metric tons unless otherwise specified)

		Iron			Le	ad		Manganese	Mercury		Nickel	
		Ore, gross		Steel,	Mine, Pb	Refined,		mine, Mn	mine, Hg		Mine, Ni	
Country	Iodine 1/	weight	Pig	crude	content	primary	Magnesite	content	content 1/	Mica	content	Refined 4/
Afghanistan												
Australia		154,268	7,159	8,158	681	239	280	729			126	85
Bangladesh				36								
Bhutan												
Brunei												
Burma					2	2		(2/)			(2/)	
Cambodia												
China	500	209,000	125,390	124,260	501	821	2,450	1,100	200	120	50	45
Fiji												
Hong Kong				450								
India		68,000	18,000	24,269	40	72	360	600		2		
Indonesia	74	562		2,800							89	
Japan	6,152	1	74,520	94,192	6	126						66
Korea, North		700	250	1,000	70	70	1,000					
Korea, Republic of		188	23,329	41,042	2	140				25		
Laos												
Malaysia		337		2,100						4		
Mongolia												
Nepal												
New Caledonia											129	
New Zealand		2,000		700								
Pakistan			1,500	500			2					
Papua New Guinea												
Philippines				900			1				8	
Singapore				600								
Sri Lanka										1		
Taiwan			9,020	16,027						7		10
Thailand		122		1,474	6			(2/)				
Vietnam				300								
Total	6,700	435,600	259,000	319,000	1,310	1,470	4,000	2,400	200	160	400	210
Share of world total, percent	35	44	45	41	43	49	14 3/	35	11 3/	52	36	20
United States	1,620	57,800	46,300	97,400	520	350	W		NA	104		

See footnotes at end of table.

TABLE 1--Continued ASIA AND THE PACIFIC: PRODUCTION OF SELECTED MINERAL COMMODITIES, 1999

				Tin	n 1/			Tungsten	Zinc	
	Petroleum,	Natural gas,		Mine, Sn	Refined,	Titani	um	mine, W	Mine, Zn	Refined,
Country	crude 5/	dry 6/	Salt	content	primary	Ilmenite	Rutile	content 1/	content	primary
Afghanistan		2,600	13							
Australia	195	30,962	8,879	10,029	585	1,489	190		1,163	338
Bangladesh	1	6,400	350							
Bhutan										
Brunei	66	11,164								
Burma	3	1,750	35	240				200	(2/)	
Cambodia			40							
China	1,190	25,000	28,124	61,700	92,300	170		24,000	1,370	1,695
Fiji										
Hong Kong										
India	241	31,400	9,500			378	16		145	175
Indonesia	548	86,863	650	47,754	49,105					
Japan	5	2,280	1,390		568				64	525
Korea, North			500					700	190	180
Korea, Republic of			750						10	430
Laos			4	(2/)						
Malaysia	254	48,360		7,340	27,300	129				
Mongolia			1					16		
Nepal			6							
New Caledonia										
New Zealand	21	4	65							
Pakistan	20	8,875	1,035							
Papua New Guinea										
Philippines	(2/)		550							
Singapore										
Sri Lanka			97							
Taiwan	(2/)	850	77							
Thailand	12	19,333	550	3,400	17,306			30	27	76
Vietnam	105	1,500	720	4,500	2,400	91			24	
Total	2,660	277,000	53,300	135,000	189,600	2,260	210	25,000	2,990	3,420
Share of world total, percent	11	12	26	68	70	60 3/	53 3/	80 3/	37	86
United States	2,280	498,046	41,252			W	W		843	240

(Thousand metric tons unless otherwise specified)

United States2,280498,04641,252NA Not available.W Withheld to avoid disclosing company proprietary data.-- Zero.

1/ Metric tons.

2/ Less than 1/2 unit.

3/ Excludes U.S. production.

4/ Includes Ni content of oxide but excludes ferroalloy.

5/ Million 42-gallon barrels.

6/ Million cubic meters.

TABLE 2 ASIA AND THE PACIFIC: CONSUMPTION OF SELECTED METALS

(Thousand metric tons unless otherwise specified)

	Aluminum, primary		Cadmium 1/		Copper, refined		Lead, refined		Nicke	Nickel		Tin, refined 1/		Zinc, slab	
Country	1996	1999	1996	1999	1996	1999	1996	1999	1996	1999	1996	1999	1996	1999	
Australia	322	358	24	24	160	165	69	56	2	2	900	2,900	178	201	
China	2,135	2,926	600	600	1,193	1,484	464	525	46	39	42,800	39,500	977	1,196	
Hong Kong	42	48	(2/)	(2/)	5	5	1	4	(2/)	(2/)	2,300	1,400	6	6	
India	585	548	446	446	140	230	104	104	19	19	1,500	1,200	199	229	
Indonesia	161	139	(2/)	(2/)	105	56	87	43	(2/)	(2/)	1,600	2,200	89	56	
Japan	2,393	2,100	6,527	6,550	1,480	1,294	330	318	187	159	26,900	23,200	736	634	
Korea, Republic of	674	814	380	380	598	784	231	256	50	90	11,200	11,900	350	472	
Malaysia	115	100	(2/)	(2/)	144	158	75	89	(2/)	(2/)	5,400	5,700	32	75	
New Zealand	39	43	(2/)	(2/)	10	6	8	7	(2/)	(2/)		100	24	24	
Philippines	26	34	(2/)	(2/)	43	35	26	41	(2/)	(2/)	300		48	41	
Singapore	40	34	(2/)	(2/)	14	10	13	11	(2/)	(2/)	200	100	15	15	
Taiwan	310	464	20	20	544	655	124	148	50	104	7,100	10,900	196	275	
Thailand	220	156	(2/)	(2/)	155	117	80	60	(2/)	(2/)	6,000	5,200	111	87	
Asia and the Pacific, unspecified	116	150	119	119	20	21	85	57	13	13	2,100	1,200	130	120	
Total	7,180	7,900	8,100	8,100	4,610	5,020	1,700	1,720	370	430	108,000	105,500	3,090	3,430	
Share of world total, percent	35	34	46	43	37	36	30	29	40	40	46	43	41	41	
United States	5,348	6,203	2,246	2,220	2,621	2,990	1,648	1,750	119	158	39,800	55,600	1,209	1,340	

-- Zero.

1/ Metric tons.

2/ Included in Asia and the Pacific, unspecified.

Source: World Bureau of Metal Statistics, World Metal Statistics, January 2001.