

INDONESIA

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Compared with other Asian countries affected by economic crises, Indonesia's economic recovery was relatively slow. Until the country's banking and corporate debt restructuring have made substantial progress, sustainable economic growth could be difficult. The progress of restructuring and privatization of state-owned enterprises has been very slow. In 2000, Indonesia experienced a more balanced economic recovery. The gross domestic product grew by 4.8%, which was higher than the Government's estimate at the beginning of the year (Far Eastern Economic Review, 2001b). Unlike the growth in 1999, which was mainly from consumption, the economic growth was more broadly based in 2000. All sectors reported positive growth. The mining and quarrying sector increased by 2.3%; this sector had declined by 2.4% in 1999. The communication, construction, manufacturing, and transportation sectors grew by between 5% and 10%. Exports other than oil, which became an engine of growth, increased by 23.2% to \$47.8 billion. The demand for electricity increased by more than 8% and the capacity utilization rate improved as production expanded to meet domestic and export demand (U.S. Embassy, Jakarta, Indonesia, January 2, 2001, Economic highs and lows—End of year, accessed January 19, 2001, at URL <http://www.usembassyjakarta.org/econ/econhighlow2001.html>).

Government Policies and Programs

In 2000, new investment was still low compared with the precrisis period because concerns about political uncertainties continued to deter foreign investment. In 1999, the Indonesian Parliament had passed two laws—Law No. 22/1999, Regional Political Autonomy, and Law No. 25/1999, Fiscal Decentralization. The impact of decentralization on investment rules and procedures, such as the regional authority on taxation, new investment approval criteria, and licensing, remained unclear. Both laws were scheduled to be implemented in May 2001; the deadline, however, was moved up to January 1, 2001, to accommodate the shift of the fiscal year to January–December from April–March. Law No. 22 set up guidelines for the election of governors, district heads, and mayors; these had been appointed by the Central Government in the past. Local governments will have control over a broad range of areas, such as domestic trade, investment, and industry policy. Law No. 25 mandated that a minimum of 25% of domestic revenue would be transferred to local governments through the General Allocation Fund. In addition, the Provincial Governments and other local governments of areas where mining operations were located would receive after-tax royalties, such as 15% from oil, 30% from natural gas, and 80% from mining, fishing, and forestry. The law reversed the Central Government spending, which accounted for more than 80% of total Government spending in the past 30 years (U.S. Embassy, Jakarta, Indonesia, November 30, 2000, Government issues fiscal decentralization regulations, accessed January 19, 2001, at URL <http://www.usembassyjakarta.org/econ/decentralization.html>).

According to PricewaterhouseCooper's 2000 report, the mining industry contributed about \$1.5 billion to Indonesia's economy in 1999. The value of mining exports was about 11% of the total exports that year (Far Eastern Economic Review, 2001a). Mining companies, however, were confused about the connection between Law No. 22/1999 and Law No. 11/1967 on general mining. The major problem was that two laws were contradictory. Law No. 11/1967 was centralistic, and Law No. 22/1999 was decentralistic. After December 31, 2000, Law No. 11/1967, in practice, had no legal strength to protect mining operations, particularly on new investments. Also, Law No. 41/1999 on forestry prohibited open cast mining. In Irian Jaya, about 68% of the area potentially available for mining exploration was covered by protected forest; 58%, in Sumatra; 50%, in Maluku; and 39%, in Sulawesi (Petrominer, 2001a). Mining companies, such as BHP Ltd., PT Aneka Tambang (PT Antam), PT Freeport Indonesia Co., and Rio Tinto Ltd., postponed their expansion and new investment projects until the Government could provide legal protection that was clear and unequivocal. In 2000, mining companies that operated under contracts of work (COWs) spent only \$550 million, which was about half that expended in 1999. In 2000, 30 mining contractors, 14 producing, and 16 exploration companies postponed their investment programs, and 18 contracts of work were terminated (U.S. Embassy, Jakarta, Indonesia, February 15, 2001, IMI Indonesian mining sector update, February, accessed March 2, 2001, at URL <http://www.usembassyjakarta.org/econ/indomining.html>). The Ministry of Energy and Mineral Resources (MEMR) and other related departments jointly drafted a new mining law/regulation to replace Law No. 11/1967 with an updated regulatory framework that recognized the changing role of Government, especially with regard to implementation of regional autonomy and fiscal decentralization and further safeguard of the natural environment (Petrominer, 2001d).

The reorganization of the MEMR began in the late 2000. The Department for Mining was merged into the Department of Geology and Mineral Resources. The MEMR's Education and Training Center was assigned responsibility for developing training programs for local government mining programs under the decentralization program.

According to the Indonesian Constitution, all natural resources in the soil and the waters are under the jurisdiction of the state. Law No. 44/1960 stated that only national enterprises may exploit petroleum and natural gas. Law No. 15/1962 was concerned with the obligation of oil companies to meet domestic demand, and Law No. 8/1971, which was amended by Law No. 10/1974, discussed the role of state-owned oil and gas mining companies. In October, the Government submitted a revised oil and gas bill to the Parliament, which rejected the initial draft bill in 1999. The oil and gas bill specified that the upstream and downstream activities would be opened for competition. It would allow foreign companies to operate in Indonesia directly without forming Indonesian subsidiaries to

conduct upstream activities. Pertamina, the state-owned company, enjoyed an oil and gas monopoly status for more than three decades. In the proposed bill, Pertamina will be transformed to a limited liability corporation, and its governmental regulatory functions and responsibilities for administering Indonesia's production sharing contract (PSC) will be removed. A new implementation agency will be established to award PSCs and to regulate PSC activities. A new regulatory agency will be established to control downstream activities and to issue business licenses. A single company could not engage in upstream and downstream activities (Petrominer, 2001c).

The MEMR ordered illegal gold miners to stop using mercury in their gold-processing activities. In West Kalimantan Province, rivers have been contaminated by mercury waste disposed by illegal gold operations. Mercury contents in rivers were more than 10 times the maximum allowed limit. Residents in the Provinces of Java and West Kalimantan demanded that the Government shut down illegal mining operations in their areas (Asian Journal of Mining, 2001a).

Trade

Indonesian total trade rebounded from the decline in 1999. Imports and exports surged in 2000, and the trade surplus exceeded \$28 billion. In 2000, exports increased by 27.4% to \$62.0 billion, and imports increased by 39.7% to \$33.5 billion. The value of nonoil and gas exports was \$47.8 billion and represented an increase of \$9.9 billion from that of 1999. Because of increased oil and gas prices in the world markets compared with those in 1999, the value of oil and gas exports in 2000 was \$14.2 billion, which was an increase of 45% compared with that of 1999. For the mining sector, the total export value for Indonesian minerals, which excluded oil and gas, was \$3.0 billion; copper ore and coal accounted for 93%. Other major export commodities were bauxite, dimension stone, nickel ore, and tin. Plywood, garments, textiles, processed rubber, palm oil, and electrical apparatus dominated Indonesia's manufactured exports in 2000 (Ministry of Industry and Trade, Republic of Indonesia, [undated], Trade balance, accessed July 24, 2001, at URL http://www.dprin.go.id/english/Statistik/trade_b.asp). Imports of capital goods and value-added manufacturing products increased sharply in 2000. Imports of iron and steel rose by more than 63% to \$1.62 billion, and nonferrous metals and products increased by more than 40% to \$1.23 billion. In 2000, the top five sources of Indonesian imports were Japan, the United States, Singapore, the Republic of Korea, and China. Imports from Malaysia and Taiwan increased by more than 60%. Exports to and imports from Singapore often included products that were destined for/produced in other countries (Ministry of Industry and Trade, Republic of Indonesia, [undated], Non-oil and gas import by main country of origin, accessed July 26, 2001, at URL http://www.dprin.go.id/english/Statistik/in_neg..asp).

Commodity Review

Metals

Copper.—The Indonesian Environmental and Natural Resources Non-Governmental Forum filed a lawsuit in Jakarta against PT Freeport Indonesia Co. for environmental mismanagement and misinformation in the Wanagon Basin,

which is next to Freeport's Grasberg Copper Mine in Irian Jaya Province. On May 4, 2000, a period of excess rainfall caused a slippage of the mine waste stockpile in the Wanagon Basin into the Wanagon Valley; four contract employees in the area were unaccounted for. After the accident, the Indonesian Government imposed a restriction on ore processing at Grasberg to an average of 200,000 metric tons per day (t/d) from previous the level of 230,000 t/d. Experts from the Indonesian Institute of Technology of Bandung and officials from the MEMR and Freeport conducted a comprehensive study of the cause of the slippage. After completion of the stabilization program that had been recommended by the expert committee, normal overburden placement at the Wanagon stockpile resumed, and the Government cleared the mine to return to full capacity in December (Metal Bulletin, 2000a, b, 2001b; Mining Journal, 2000b). The Gresik Smelter of PT Smelting Co. operated at its full design capacity in the second half of 2000; Freeport had 25% equity in the company. PT Smelting purchased all its copper concentrate requirement from Freeport. The smelter was expected to operate at its design full capacity in 2001 (Reuters, September 29, 2000, Indonesia's Gresik copper output seen up next year, accessed October 12, 2000, at URL <http://biz.yahoo.com/rf/000929/t57699.html>).

In the first full year of operation, the Batu Hijau copper and gold mine in Sumbawa Island, West Nusa Tenggara Province, produced 236,524 metric tons (t) (521 million pounds) of copper and 9,075 kilogram (320,100 ounces) of gold in 2000. The Batu Hijau mine was operated by PT Newmont Nusa Tenggara (NNT) [a joint venture of Newmont Mining Corp. of the United States (45%), Sumitomo Corp. of Japan (26%), PT Pukuafu Indah (20%), and other share holders]. Because PT Pukuafu Indah did not contribute funds in the initial \$800 million investment, it did not have an economic stake. Economic shares were divided between Newmont and Sumitomo. An additional \$1 billion project fund was financed through the Export and Import Bank of Japan, the United States Import and Export Bank, and Kreditanstalt für Wiederaufbau, a German export credit agency. At yearend, reserves at Batu Hijau were 4 million metric tons (Mt) (9 billion pounds) of copper and 332 t (11.7 million ounces) of gold (Mining Journal, 2000a; Newmont Mining Corp., 2000, p. 12).

Gold.—PT Newmont Pacific Nusantara (a subsidiary of Newmont) informed the MEMR that it had decided to close its greenfield explorations in Indonesia. The closure was caused by confusion about the Indonesian legal mining regulation and investment policies. In 1999, the Government increased taxes and royalties that created a less competitive investment environment compared with other countries. Newmont would close only its greenfield operations but not its operations in North Sulawesi and West Nusa Tenggara Provinces (Petrominer, 2001b).

In 2000, PT Newmont Minahasa Raya's Minahasa mine, located on the northern tip of North Sulawesi Province, had been forced to close several times because of a continuing dispute with exlandowners who demanded additional land compensation and a strike by mining contractors. In addition, the local government attempted to shut down the mine owing to a dispute over overburden tax compensation. An out-of-court settlement was reached when the company agreed to pay \$500,000 in back taxes on overburden used in the construction of roads for the Regency and \$2.5 million to be used in local project. Owing to a depletion ore resource, PT Newmont

planned to cease the Minahasa operation in 2003; the mine, which began production in 1996, would continue until the end of 2001 with concentrate production through 2003. The company negotiated with the Government to free itself from the COW that would expire in 2026. The company would not attempt to develop the nearby Lobongan gold deposit because of excessive illegal mining in the region (Metal Bulletin, 2001g).

Because of political uncertainty and illegal mining problems, Aurora Gold Ltd. of Australia decided to sell its 85% share in the Toka Tindung project in North Sulawesi Province. Aurora had invested \$30 million in the project and discovered an indicated and inferred resource of 15.4 Mt of ore at an average grade of 3 grams per ton (g/t) gold and 8 g/t silver. Talawaan, which was another of Aurora's prospects, had been heavily contaminated with the mercury used by illegal miners in the same area (Metal Bulletin, 2001a).

Iriana Resources Corp. of Canada announced that its Mafi gold exploration in Irian Jaya Province had gotten underway in 2000. In a 6-kilometer (km) segment of the Mafi River, initial assay samples contained 26.7 g/t gold, 445 g/t silver, and 10.4% lead. Antimony and zinc may also occur in the area (Iriana Resources Corp., September 5, 2000, Iriana Resources Corporation—Exploration drill program—Indonesia, accessed September 6, 2000, at URL http://biz.yahoo.com/cnw/000905/iriana_ind.html).

Iron and Steel.—As the fourth most populous country in the world, Indonesia has the potential to become one of the largest steel-consuming countries in Asia and the Pacific region. The volatile political situation and the uncertain economic climate in the country, however, hampered the recovery of the steel sector. The slow recovery of the downstream industries, particularly in the construction sector, affected the financial situation for many steel producers in Indonesia. Many large construction projects were put on hold. In 2000, PT Toyogiri Iron and Steel (a privately-owned rebar producer) operated at only about 60% of its design output capacity. Jakarta Steel Megah Utama, another rebar mill, produced about 100,000 t steel bars from its 240,000-metric-ton-per-year (t/yr) capacity mill. The country's largest iron and steel producer PT Krakatau Steel produced only 1.89 Mt of crude steel from its 5.5-Mt design capacity and 1.74 Mt of sponge iron, which was 74% of its output capacity (Metal Bulletin, 2001c, f).

Lead and Zinc.—Through its 71% subsidiary International Annax Ventures Inc., Herald Resources Ltd. of Australia announced the discovery of significant lead and zinc resources in the Dairi area, Bukit Barisan Highland, North Sumatra Province. In 2000, the operating company PT Dairi Prima Mineral was a joint venture of Annax, which owned 80%, and PT Antam, which owned 20%. PT Antam can increase its share to 30% at the prefeasibility stage by reimbursing 15% of the exploration costs. The exploration concentrated in the Anjing Hitam area in the southeastern part of the Sopokomil/Bongkaras domal structure. The deposit is 800 meters (m) long and 250 m wide and has an average thickness of 12 m. The company estimated that the deposit contained an indicated resource of 7.5 Mt of lead and zinc at 10.3% lead, 16.7% zinc, and 14 g/t silver and an inferred resource of 2.5 Mt at 6.8% lead and 11.3% zinc (Asian Journal of Mining, 2001b; Mining Journal, 2001).

Nickel.—PT Antam and PT International Nickel Indonesia (PT Inco) discussed the formation of a joint venture to develop PT Inco's nickel deposit in East Pomalaa on the island of Sulawesi; the nickel deposit is located about 100 km from PT Antam's smelters and about 300 km from PT Inco's Soroako smelter. PT Antam could use some of undeveloped reserves for its operations because its reserves will be depleted in the next couple of years (Metal Bulletin, 2001e).

PT Antam selected Tessag INA GmbH of Germany as the contractor to build its third ferronickel plant (FeNi III). The new plant will be located next to the company's two other smelters and will double PT Antam's output to 24,000 t/yr of contained nickel. The estimated cost for the new plant was \$220 million; this does not include the cost of a \$120 million powerplant. Construction was expected to take 28 months, and full operation of the new plant was scheduled for 2004. PT Antam exported nearly all its output mainly to Japan, the Republic of Korea, and Taiwan. In 2000, PT Antam's net income increased by 64% compared with that of 1999. The rise in profits was mainly attributed to higher nickel prices in the world market. Because of security concerns on the neighboring Halmahera Island, nickel ore output at Gebe declined slightly but was offset by increase output at Gee and Pomalaa (Metal Bulletin, 2001d).

After PT Inco completed construction of its nickel mining and processing facilities in late 1999, output capacity of nickel matte increased to 68,000 t/yr of contained nickel. In 2000, nickel matte production rose by about 30% to 59,200 t; owing to above normal rainfall that interrupted mining operations, however, nickel output was below the target level of 61,290 t. The Government extended PT Inco's COW through 2025 (PT International Nickel Indonesia, February 8, 2001, PT International Nickel Indonesia Tbk reports 2000 earnings of \$80.5 million (U.S.) reflecting increased production and high nickel prices, Press Release, accessed August 2, 2001, at URL <http://micro.newswire.ca/releases/February2001/08/c1859.html/34206-0>).

PT Weda Bay Nickel announced that indicated and inferred nickel and cobalt resources in Halmahera Island increased to 202 Mt. The inferred resource of the Santa Monica deposit was estimated to be 75.8 Mt and to contain 1.38% nickel and 0.12% cobalt, and that of the Big Kahuna deposit was estimated to be 40.4 Mt at a grade of 1.32% nickel and 0.08% cobalt. The company planned to develop open pit mines and high-pressure acid-leach processing facilities on the island. Its parent company Weda Bay Minerals Inc. of Canada and OM Group Inc. signed an agreement to provide \$18 million for the feasibility study for the development of the Halmahera project and to buy up to 45,000 t/yr of nickel and 4,000 t/yr of cobalt from the project in the form of intermediate product. Under the terms of agreement, OM Group acquired 19.9% interest in Weda Bay and arranged a \$19.6 million loan. If OM Group fully exercised its option, its shares would increase to 40% (Northern Miner, 2000).

Tin.—In 2000, Indonesia's production of tin concentrates increased slightly, but tin metal output declined compared with those of 1999. Even with community conflicts in several mining sites in midyear, tin concentrate production by PT Tambang Timah (a subsidiary of PT Tambang Timah Tbk) increased by yearend; refined tin output, however, was lower because higher tin-in-concentrates production occurred at the end of the year. The smelter was not able to refine the

concentrate before yearend. Tin concentrate in Timah's warehouse increased by about 100% compared with that of 1999. High tin concentrate output from onshore mining was attributed to increased compensation paid to company contractors to minimize illegal mining and smuggling activities (Metal Bulletin, 2000c, d, 2001i). Owing to the depletion of tin resources and the decline of tin prices in the world markets for the past several years, Timah expected that tin production would decline in 2001 and was exploring for opportunities to mine tin in Burma, Cambodia, Malaysia, and Vietnam. In an effort to diversify its mining activities into other commodities, the company received Government approval to explore for diamond and gold in the provinces of Kalimantan and North Sumatra (Metal Bulletin, 2000e).

The Indonesian Government granted a 10-year COW extension to PT Koba Tin to operate in Indonesia. The mine life in the company's existing resources was about 8 years. In 2000, PT Koba produced about 11,000 t of refined tin, most of which was exported to Japan. PT Koba initially paid \$25,000 to Iriana Resources Corp. to acquire the right to explore for base and precious metals on Iriana's Wae Dara and Nggorang properties on Flores Island. According to the terms of agreement, PT Koba can earn a 92.5% interest in the two properties by paying a total of \$700,000 in options and cash within next 3 years (Metal Bulletin, 2001h; Iriana Resources Corp., November 3, 2000, Iriana property optioned in Indonesia, accessed November 6, 2000, at URL <http://biz.yahoo.com/em/001103/e.html>).

Industrial Minerals

In 2000, Indonesia had a cement output capacity of about 48 Mt. PT Indocement Tunggal Praksa, PT Semen Cibinong, and PT Semen Gresik contributed about 57% of domestic output capacity but accounted for about 80% of the domestic market share. Many facets of the cement sector, which included retail price, export quota, and expansion permits, were heavily regulated by the Government; as part of the International Monetary Fund reform agreement, however, the Government has moved towards a full market liberalization and removed the regional retail guidance prices and export quota. In Indonesia, Jakarta and West Java accounted for more than 31% of total domestic cement consumption; Sumatra, 21%; East Java, 16%; North Java, 13%; and other islands, 19%. Generally, cement consumption has been related to the activity of the construction sector. In the past couple years, many housing and infrastructure projects have been either postponed or eliminated; therefore, the demand for cement reduced significantly. Many cement plants were operated at about 60% of their design capacities, and several companies put their expansion plans on hold until the economic climate improved in the next several years (PT Indocement, 2001, The Indonesia cement industry, accessed July 11, 2001, at URL <http://www.indocement.co.id/en/cement-industry.asp>).

Mineral Fuels

Coal.—The fourth generation of coal contracts of work (CCOW) included the adoption of new laws for local government autonomy, the requirements of community development, and the adoption of ad valorem royalty rates in U.S. dollars. Royalty increased to 5% of the sale of mineral production. Mining companies are required to consult with

regional and local governments for community development plans. The CCOW requires that foreign companies transfer 51% share of the project to Indonesian companies according to a fixed timetable during the first 10 years of production. This requirement applies not only to fourth generation CCOWs but to first generation CCOWs as well. To encourage the development of low-quality coal in Indonesia, the Government planned to introduce incentives, which included lower royalties that were based on the quality of coal deposit and remoteness of the area (U.S. Embassy, Jakarta, Indonesia, 2000, p. 10).

In 2000, Indonesia's coal production increased slightly to 76.9 Mt but missed the Government's output target of 84.5 Mt because of illegal mining and labor disputes. With the domestic economic activities remaining sluggish, the Indonesian coal sector relied on its exports to maintain the steady output growth. Total exports increased to 55.2 Mt in 1999 compared with 46.9 Mt in 1998; in 1999, about 70% was exported to Asian markets. Despite low coal prices in the world markets and slack domestic market conditions, the Government expected that coal output would grow to 105 Mt in 2002 and 109 Mt in 2003 and set coal export targets at 63 Mt in 2000, 77.5 Mt in 2002, and 79.7 Mt in 2003 (U.S. Embassy, Jakarta, Indonesia, 2000, p. 4). The rapid growth resulted from extensive market efforts by coal exporters and coal producers' willingness to set coal prices at competitive levels to gain market share. The value of coal exports declined to \$1.27 billion in 2000 from \$1.30 billion in 1999 (Ministry of Industry and Trade, Republic of Indonesia, [undated], Trade balance, accessed July 24, 2001, at URL http://www.dprin.go.id/english/Statistik/trade_b.asp).

Indonesia has coal resources of 38.8 billion metric tons (Gt), of which 11.5 Gt are proven reserves. Its coal reserves are categorized as lignite, 58.6%; subbituminous, 26.6%; bituminous, 14.4%; and anthracite, 0.4%. Most Indonesian coals are low ash and low sulfur (about 1%). Major coal resources are located in the Kalimantan and Sumatra areas. Illegal coal mining, which has increased in the past 3 years, has caused numerous problems for the coal sector. Domestic analysts estimated that illegal miners mined out about 3 Mt of coal in 1999 and ignored environmental and safety guidelines. Coal producers requested that the Government take legal action and regulate illegal mining (Asian Journal of Mining, 2001c).

The Central Government agreed with the East Kalimantan Provincial Government request to divest up to 51% of PT Kaltim Prima Coal Co. (KPC) [jointly owned by PT Rio Tinto Indonesia (50%) and British Petroleum Amoco (50%)] to the local government. The company insisted that its COW with the Central Government only required it to divest 37%. KPC, which was one of the largest coal producers in Indonesia, had a coal output capacity of 15 metric tons per year (Mt/yr). At yearend, the company had proven coal reserves of 650 Mt, which could sustain the current output rate for more than 20 years (Coal Age, 2001).

Local community members in South Sumatra Province met with officials of the state-owned coal company PT Tambora Bukit Asam (PTBA) to urge the company to cancel the privatization program in order to protect the interest of local people. The Government planned to launch an initial public offering of PTBA's share to raise funds to finance the company's expansion project in 2001. Under its expansion programs, PTBA planned to develop two coal mines, Banko Barat (5.4-Mt/yr capacity) and Muara Tiga (5.9-Mt/yr capacity) and to increase the coal transportation capacity from coal-mining sites in Tanjung Enim, South Sumatra Province, and

Tarahan port, Lampung Province. PTBA tried to acquire PT Barasentosa Lestari, PT Indominco Mandiri, PT Kitadin, and PT Trubaindo Coal Mining from PT Holdico Perkasa, which had been established by the Indonesia Bank Restructuring Agency to manage assets that belonged to Salim Group. PT Indominco Mandiri and PT Kitadin had a combined coal output capacity of 5 Mt/yr. Banpu plc. of Thailand also was interested in acquiring these four coal companies (Asian Journal of Mining, 2001d).

Oil and Gas.—In 2000, Indonesia's oil production averaged 1.41 million barrels per day, which was a decline of nearly 6% compared with that of 1999. The export of oil also declined to 612,200 barrels per day (bbl/d), which was a 21.6% decrease compared with that of 1999, because of lower output and higher domestic demand. The export earnings, however, increased by 28.6% to \$6.3 billion in 2000 because of an increase of oil prices in the world markets. Because of the decline production in ExxonMobil Oil Indonesia's field, natural gas production decreased slightly to 82 billion cubic meters in 2000 from 87 billion cubic meters in 1999 (U.S. Embassy, Jakarta, Indonesia, [undated], IMI Indonesian year 2000 petroleum statistics, accessed June 19, 2001, at URL <http://www.usembassyjakarta.org/econ/petro2000.html>).

Pertamina produced about 2.5% of the country's crude oil, but it controlled the oil trade through the PSC. Pertamina received a major share of its revenue from its PSCs. The profit sharing split on a net income basis was 85-15 (government/contractor) for oil and 70-30 for natural gas. The proposed oil and gas bill would allow Pertamina to operate more freely, and the restrictions on Pertamina's exploitation of offshore oil and gas resources and inability to set price freely and the provision that Pertamina must turn over its revenues to the Government, after which it would be reimbursed for its expenses, would be lifted. To prepare for the new regulation, Pertamina planned to restructure its operations and to expand its upstream and downstream activities. Pertamina intended to raise exploration and production spending from \$91 million 2000 to \$164 million in 2001. The increase was part of its 5-year plan to increase Pertamina's output from 210,000 bbl/d in 2000 to 425,000 bbl/d in 2005. Pertamina Energy Trading Ltd. (a subsidiary of Pertamina) planned to open an office in Singapore to market Indonesian oil and its products, as well as to import oil and its products to Indonesia. Pertamina also had trading offices in Seoul and Tokyo (Far Eastern Economic Review, 2000).

Because of security concerns, ExxonMobil shut down its onshore and offshore natural gas production operations in Aceh Province. Political violence by Acehese separatists created safety problems for ExxonMobil's employees and contractors in the region. ExxonMobil planes were shot at, and its vehicles, hijacked. Liquefied natural gas (LNG) produced from ExxonMobil's gasfields was exported to Japan and the Republic of Korea. The shutdown raised concerns for Japan's and the Republic of Korea's gas companies that relied on LNG supplies from ExxonMobil (Asian Wall Street Journal, 2001).

Because of a decline in gas reserves at the Arun fields, ExxonMobil and Pertamina agreed to close two LNG trains at the PT Arun LNG Plant in April 2000. PT Arun is a joint venture of Pertamina (55%), ExxonMobil (30%), and Japan Indonesia LNG Co. (15%). ExxonMobil was the sole natural gas supplier to the plant. The plant had a design output capacity of 12.3 Mt/yr, and after shutdown, the output capacity was reduced by one-third. The decline in LNG production at Arun

was expected to be offset, in part, by the increased production at the Badak LNG Plant in Bontang, East Kalimantan Province (U.S. Embassy, Jakarta, Indonesia, March 10, 2000, Indonesian oil update for March, accessed April 26, 2000, at URL <http://www.usembassyjakarta.org/econ/oil-updatemarch00.html>).

ExxonMobil announced that its subsidiary Mobil Cepu Ltd. had discovered oil at the Banyu Urip No. 3 well, which had recoverable oil reserves of more than 250 million barrels. The well encountered nearly 305 m of gross oil and more than 91 m of gross gas pay. Pertamina had accepted an option to acquire a 10% share of the project. Initial production was expected to begin in 2003 (U.S. Embassy, Jakarta, Indonesia, IMI Indonesian oil update for April, accessed June 19, 2001, at URL <http://www.usembassyjakarta.org/econ/Indoilupdate.html>).

Pertamina and Indian Oil Corp. signed an oil and gas cooperation agreement that included exploration, production, marketing, technological, and trade activities. Further discussion and negotiation on the implementation of the agreement was planned. Analysts predicted that the first cooperative venture would be the development of the Wiriagar block of the Tangguh natural gas field offshore from Irian Jaya Province (U.S. Embassy, Jakarta, Indonesia, IMI Indonesian oil update for August, accessed December 5, 2000, at URL <http://www.usembassyjakarta.org/econ/imiaugust.html>).

In December, Inpex Ltd. of Japan announced that the company had discovered natural gas and condensate in the Masela Block in the Timor Sea. The flow rate at the Abadi-1 exploration well was 707,000 cubic meters per day of natural gas and 260 bbl/d of condensate. Inpex acquired a 100% share from Pertamina in November 1998 and began drilling in October 2000. The feasibility study on the development of Abadi-1 was underway (U.S. Embassy, Jakarta, Indonesia, [undated], IMI Indonesian oil update for April, accessed June 19, 2001, at URL <http://www.usembassyjakarta.org/econ/Indoilupdate.html>).

In April 2000, production from the Peciko gasfield, located offshore of East Kalimantan Province, could make Total Indonesia the largest gas producer in Indonesia. The Peciko gasfield had proven reserves 680 billion cubic meters. Total operated and owned a 50% interest in the Mahakam PSC area off the Mahakam River Delta; Inpex had the other 50%. Production at Peciko started a rate of 2.8 million cubic meters per day and was expected to reach 22.6 million cubic meters per day by yearend 2000. Installing a third offshore wellhead platform and nine additional development wells would increase production to 28.3 million cubic meters per day by yearend 2001. At that time, Peciko will supply about 60% of the Bontang LNG Plant's feed requirement. The Bontang Plant was owned by Pertamina (55%), Virginia Indonesia Co. and Unocal Corp. (35%), and Total (10%) (Oil & Gas Journal, 2000).

References Cited

- Asian Journal of Mining, 2001a, Communities attack illegal mining: Asian Journal of Mining, November 2000-January 2001, p. 43.
- 2001b, Herald finds zinc-lead resources: Asian Journal of Mining, February-April, p. 29.
- 2001c, Indonesian coal reserves reach 38.8 Bt: Asian Journal of Mining, November 2000-January 2001, p. 28.
- 2001d, PT Bukit Asam privatisation opposed: Asian Journal of Mining, November 2000-January 2001, p. 29.
- Asian Wall Street Journal, 2001, ExxonMobil shuts plants in Aceh amid violence in province: Asian Wall Street Journal, March 19, p. 8.

Coal Age, 2001, Indonesia: Coal Age, v. 106, no. 6, p. 7.

Far Eastern Economic Review, 2000, Tackling Goliath: Far Eastern Economic Review, June 29, p. 20.

———2001a, Poor prospects for digging: Far Eastern Economic Review, February 8, p. 24.

———2001b, Treading water: Far Eastern Economic Review, February 1, p. 58.

Metal Bulletin, 2000a, Freeport says Cu output unaffected by Grasberg spill: Metal Bulletin, no. 8474, May 11, p. 3.

———2000b, Green group files lawsuit against Freeport Indonesia: Metal Bulletin, no. 8499, August 10, p. 4.

———2000c, Indonesian land issues lead to slip in Timah's output: Metal Bulletin, no. 8501, August 17, p. 5.

———2000d, Protests disrupt tin production at PT Timah operations: Metal Bulletin, no. 8507, September 11, p. 9.

———2000e, PT Timah predicts output will decline in 2001: Metal Bulletin, no. 8526, November 16, p. 9.

———2001a, Aurora to sell Indonesian mining project: Metal Bulletin, no. 8556, March 8, p. 8.

———2001b, Grasberg cleared for return to full production: Metal Bulletin, no. 8538, January 4, p. 5.

———2001c, Continued uncertainty worries Indonesian barmakers: Metal Bulletin, no. 8553, February 26, p. 22.

———2001d, Higher sales boost income at PT Antam: Metal Bulletin, no. 8566, April 12, p. 9.

———2001e, Indonesian Ni smelters join forces in Sulawesi: Metal Bulletin, no. 8551, February 19, p. 6.

———2001f, Indonesia renews plans to privatise Krakatau Steel: Metal Bulletin, no. 8551, February 19, p. 23.

———2001g, Newmont to close Indonesian gold mine in 2003: Metal Bulletin, no. 8558, March 21, p. 6.

———2001h, PT Koba extends tin rights: Metal Bulletin, no. 8564, April 5, p. 5.

———2001i, PT Timah reports mixed results: Metal Bulletin, no. 8554, March 1, p. 7.

Mining Journal, 2000a, Batu Hijau: Mining Journal, v. 335, no. 8602, September 29, p. 250.

———2000b, Grasberg warning: Mining Journal, v. 334, no. 8582, May 12, p. 367.

———2001, First Dairi resource estimate: Mining Journal, v. 336, no. 8618, January 26, p. 70.

Newmont Mining Corp., 2000, Annual report: Denver, Colorado, Newmont Mining Corp., 16 p.

Northern Miner, 2000a, Weda Bay develops nickel laterite project: Northern Miner, v. 86, no. 39, November 20, p. B1.

Oil & Gas Journal, 2000, Peciko start-up caps Total Indonesia: Oil & Gas Journal, v. 98, no. 42, October 16, p. 50.

Petrominer, 2001a, Defending the forest forfeiting mining: Petrominer, v. 28, no. 3, p. 6.

———2001b, Newmont closes its greenfield explorations: Petrominer, v. 28, no. 4, p. 31.

———2001c, The development of Indonesian "PSC": Petrominer, v. 28, no. 5, p. 16.

———2001d, A bill with basic amendments: Petrominer, v. 28, no. 6, p. 8.

U.S. Embassy, Jakarta, Indonesia, 2000, Coal report—Indonesia 2000: Jakarta, U.S. Embassy, 43 p.

Major Sources of Information

Ministry of Energy and Mineral Resources
 Jl. Jend. Gatot Subroto Kav. 49
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TABLE 1
INDONESIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity	1996	1997	1998	1999	2000
METALS					
Aluminum:					
Bauxite, gross weight thousand tons	842	809	1,055	1,116	1,551
Metal, primary e/	225,000	216,150 2/	133,000	106,000 r/	160,000
Chromite sand, dry basis e/	13,300	2,156 2/	4,700	6,400	6,400
Copper:					
Mine, Cu content	507,484	529,121	780,780	766,027 r/	1,012,054
Metal, refined, primary	--	--	--	126,700	173,800
Gold, mine output, Au content 3/ kilograms	83,564	86,927	124,018	127,184 r/	124,596
Iron and steel:					
Iron sand, dry basis	425,101	516,403	560,524	584,428 r/	489,126
Metal:					
Ferroalloys:					
Ferronickel	48,260	49,990	42,260	46,030	50,550
Ferromanganese e/	14,000	15,000	13,000	12,000	12,000
Steel, crude e/ thousand tons	4,100	3,800	2,700	2,800	3,100
Manganese, ore	34	889	900 r/	-- r/	--
Nickel:					
Mine output, Ni content 4/	87,911	71,127	74,063	89,100	98,200
Matte, Ni content	39,500	32,012	35,697	45,400 r/	59,200
Ferronickel, Ni content	9,653	9,999	8,452	9,225 r/	10,111
Silver, mine output, Ag content kilograms	255,403	219,392	348,987	288,200 r/	255,578
Tin:					
Mine output, Sn content	52,304	55,175	53,959	47,754	51,629
Metal	39,000 e/	52,658	53,401	49,105	46,432
INDUSTRIAL MINERALS					
Cement, hydraulic e/ thousand tons	25,000	26,000	22,000	23,925 2/	27,789 2/
Clays:					
Bentonite	26,000 e/	653,823	840	5,213	5,000 e/
Fireclay e/ thousand tons	2,000	2,000	1,800	1,850	1,900
Kaolin powder	15,000 e/	1,956	8,567	21,389	15,000 e/
Diamond: e/					
Industrial stones thousand carats	22	23	22	23	23
Gem do.	7	7	6	7	7
Total do.	29	30	28	30	30
Feldspar	50,000 e/	24,399	40,434	23,236	24,000 e/
Gypsum	1,400 e/	--	405	5,707	6,000 e/
Iodine	75 e/	83	65	74	75 e/
Nitrogen, N content of ammonia e/ thousand tons	2,875 2/	3,600	3,500	3,450	3,620
Phosphate rock	7,500 e/	533	752	617	630 e/
Salt, all types e/ thousand tons	670	680	660	650	650
Stone:					
Dolomite	4,000	13,411	20,115	2,907	3,500 e/
Granite thousand tons	4,827	6,138	4,801	4,107	5,941
Limestone do.	15,000 e/	6,329	6,575	15,540 5/	16,000 5/
Marble cubic meters	8,000 e/	2,592	142,147	702	1,000 e/
Quartz sand and silica stone	300,000 e/	636,468	144,953	140,428 5/	145,000 e/ 5/
Sulfur, elemental e/	3,500	3,500	3,400	3,450	3,500
Zeolite	75 e/	--	--	569	400 e/
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Anthracite	50,000 e/	85,165	57,741	72,795	76,000 e/
Bituminous thousand tons	50,332	55,982	61,146	72,618	76,800 e/
Gas, natural:					
Gross million cubic meters	83,500	89,630	84,333	86,863	82,334
Marketed e/ do.	48,200	50,900	48,700	49,500	45,100
Petroleum, crude including condensate thousand 42-gallon barrels	575,000	539,752	568,159	547,610	516,070

e/ Estimated. r/ Revised. -- Zero.

1/ Table includes data available through August 10, 2001.

2/ Reported figure.

3/ Includes Au content of copper ore and output by Government-controlled foreign contractors' operations. Gold output by operators of so-called people's mines and illegal small-scale mines is not available but may be as much as 20 metric tons per year.

4/ Includes a small amount of cobalt that is not recovered separately.

5/ Cubic meter.

TABLE 2
INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2000

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Locations of main facilities	Annual capacity
Aluminum:			
Bauxite	PT Aneka Tambang (Government, 100%)	Kijang, Bintan Island, Riau	1,300
Metal	PT Indonesia Asahan Aluminium (Nippon Asahan Aluminium Co. Ltd. of Japan, 59%; Government, 41%)	Kual Tanjung, North Sumatra	225
Cement			
	PT Indocement	Citeureup, West Java	8,000
Do.	PT Semen Cibinong	Narogong, East Java	1,400
Do.	PT Semen Gresik	Gresik, East Java	1,500
Do.	PT Semen Padang	Indarung, West Java	2,200
Coal			
	PT Adaro Indonesia (New Hope Corp, 50%; PT Asminco Bara Utama, 40%; Mission Energy, 10%)	Paringin and Tutupan, South Kalimantan	20,000
Do.	PT Bukit Baiduri Enterprise (PT Gajah Tunggal Gal Mulia, 90%; others, 10%)	Samarinda, East Kalimantan	3,000
Do.	PT Kaltim Prima Coal Co. (BP Coal Indonesia Ltd., 50%; Rio Tinto Ltd., 50%)	do.	16,000
Do.	PT Arutmin Indonesia (BHP Ltd., 80%; Bakrie Group, 20%)	Banjamasin, South Kalimantan	5,000
Copper			
Concentrate	PT Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc. of the United States, 81.28%; Government, 9.36%; others, 9.36%)	Ertzberg and Grasberg, Irian Jaya	550
Do.	PT Newmont Nusa Tenggara (Newmont Gold Mining Co. of the United States, 45%; Sumitomo Corp., 35%; PT Pukuafu Indah, 20%)	Sumbawa Island	700
Metal	PT Smelting Co. (Mitsubishi Materials Corp., 60.5%; PT Freeport Indonesia Co., 25%; others, 14.5%)	Gresik, East Java	200
Gas:			
Natural million cubic feet per day	ExxonMobil Oil Indonesia	Arun, Aceh in North Sumatra	1,700
Do.	Roy M. Huffington (subsidiary of HUFFCO Group of the United States)	Badak, East Kalimantan	1,000
Do.	Total Indonesia	Offshore of East Kalimantan	2,100
Liquefied	PT Arun LNG Co. Ltd. (Government, 55%; Mobil Oil, 30%; Japan Indonesia LNG Co., 15%)	Balang Lancang, Aceh in North Sumatra	10,000
Do.	PT Badak LNG Co. Ltd. (Government, 55%; HUFFCO Group, 30%; the Japan Indonesia LNG Co., 15%)	Bontang, East Kalimantan	7,900
Gold			
metric tons	Aurora Gold Ltd. (100%)	Balikpapan, Central Kalimantan	60
Do.	PT Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc. of the United States, 81.28%; Government, 9.36% others, 9.36%)	Ertzberg and Grasberg, Irian Jaya	55
Do.	PT Kelian Equatorial Mining (Rio Tinto Ltd, 90%; PT Harita Jaya Raya of Indonesia, 10%)	Sangatta, East Kalimantan	15
Do.	PT Newmont Minahasa Raya (Newmont Mining Corp., 80%; PT Tanjung Serapung, 20%)	Manado, North Sulawesi	15
Do.	PT Prima Lirang Mining (Billiton BV of the Netherlands, 90%; PT Prima Maluku Indah of Indonesia, 10%)	Lerokis, Wetar Island	3
Nickel:			
In ore	PT Aneka Tambang (Government, 65%)	Pomalaa, South Sulawesi and on Gebe Island,	34
In matte	PT International Nickel Indonesia (Inco Ltd. of Canada, 59%; Sumitomo Metal Mining Co. Ltd. of Japan, 20%; others, 21%)	Soroako, North Sulawesi	45
Nitrogen			
	PT Aseah-Aech Fertilizer (Government, 60%; other members of Association of Southeast Asian Nations, 40%)	Lhokseumawe, North Sumatra	506
Do.	PT Pupuk Iskandar Muda (Government, 100%)	do.	506
Do.	PT Pupuk Kalimantan Timur (Government, 100%)	Bontang, East Kalimantan	1,012
Do.	PT Pupuk Sriwijawa (Government, 100%)	Palembang, South Sumatra	1,438
Petroleum, crude			
thousand barrels per day	Atlantic Richfield Indonesia, Inc. (subsidiary of Arco of the United States)	Arjuna and Arimbi, offshore, West Java	170
Do.	Maxus Southeast Asia Ltd. (subsidiary of Maxus Energy of the United States)	Cinta and Rama, offshore, Southeast Sumatra	95
Do.	Pertamina (Government, 100%)	Jatibarang, West Java, and Bunyu, offshore East Kalimantan	80
Do.	PT Caltex Pacific Indonesia (Texaco Inc., 50%; Chevron Corp., 50%, both of the United States)	Minas, Duri, and Bangko, central Sumatra	700
Do.	Total Indonesia (subsidiary of Compagnie Francaise des Petroles of France)	Handi and Bakapai onshore and offshore East Kalimantan	180

TABLE 2--Continued
INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2000

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Locations of main facilities	Annual capacity
Steel, crude	PT Ispat Indo	Sidoarjo, Surabaya	700
Do.	PT Krakatau Steel (Government, 100%)	Cilegon, West Java	2,400
Do.	PT Wahana Garuda Lestari	Pulogadung, Jakarta	410
Tin:			
In ore	PT Koba Tin (Westralian Sands Ltd., 75%; PT Tambang Timah TBK, 25%)	Koba, Bangka Island	11
Do.	PT Tambang Timah TBK (Government, 65%)	Onshore and offshore islands of Bangka, Belitung, and Singkep	60
Metal, refined	Mentok Tin Smelter (PT Tambang Timah TBK)	Mentok, Bangka Island, South Sumatra	68
Do.	Koba Tin Smelter (PT Koba Tin)	Koba, Banka Island, South Sumatra	13.5