UNITED NATIONS

ECONOMIC
AND
SOCIAL COUNCIL

LIMITED

E/CEPAL/L.201
6 September 1979

ORIGINAL: ENGLISH

C E P A L

Economic Commission for Latin America

TRANSNATIONAL CORPORATIONS IN THE BAUXITE INDUSTRY OF CARIBBEAN COUNTRIES: RECENT DEVELOPMENT IN JAMAICA

This paper has been prepared by experts and consultants of the Joint CEPAL/CTC Unit for the Interregional Expert Group Meeting on Bargaining Capacity and Distribution of Gains in Primary Export Commodities (Bangkok, 8-13 October 1979). The opinions expressed in it are those of the authors and do not necessarily reflect the views of CEPAL.

79-8-2123

TABLE OF CONTENTS

/3. PROVISIONS OF

/Introductory note

Introductory note

This paper complements the study on transnational corporations in the bauxite industry of Caribbean countries 1/ and contains recent and more detailed information on the development of the industry in Jamaica, after the introduction of new fiscal policy in 1974.

The report characterizes in chapter 1 the overall economic effects of this policy, the production and shipment problems of the industry in 1974-1978 period and new governmental policies and negotiations regarding national production and trading of bauxite and alumina. Chapters 2 and 3 provide detailed information on the bauxite production levy enacted in 1974 and on the recent agreements with four major TNCs operating in Jamaica (ALCOA, Kaiser, Reynolds and ALCAN).

The paper is based on a preliminary report by the Joint CEPAL/CTC Unit Consultant Professor K. Levitt and has been prepared by the Unit's Regional Adviser J. Khakal. Similar information gathering is underway in Guyana and Suriname to be followed by an exhaustive analysis of the three cases.

Finally, while this paper was prepared solely for use by the Interregional Expert Group Meeting on Bargaining Capacity and Distribution of Gains in Export-Oriented Primary Commodities (Bangkok, 8-13 October 1979), critical comments and complementary information would be particularly welcomed from government officials, experts and academic circles of Caribbean and other Latin American countries in order to assist in the preparation of a definitive CEPAL study for the forthcoming Interregional Seminar of Government Representatives to be held next year in New York.

1/ See, Transnational Corporations in the bauxite industry of Caribbean countries, E/CEPAL/L. 199, Limited, August 1979.

/1. OVERVIEW OF

1. OVERVIEW OF BAUXITE AND ALUMINA INDUSTRY AFTER THE INTRODUCTION OF NEW FISCAL POLICY IN 1974

a) Situation before 1974

The aluminium TNCs commenced production in Jamaica in 1952. Until 1969 they had invested some U.S.$490 million in mining, refining and port facilities in the country. Further investment of U.S.$150 million was undertaken in the period 1970-1973; resulting in total investments of some U.S.$650 million (see table 1). 1/ Subsequent to the completion of the ALCOA refinery in 1973, there has been no further expansion.

There are five TNCs operating in Jamaica. The KAISER and REYNOLDS companies ship dried bauxite to their refineries in the United States; ALCAN ships only alumina, principally to Europe and to Canada; ALCOA ships both dried bauxite and alumina, principally but not exclusively to the United States. The fifth company, ALPART is a consortium of Kaiser, Reynolds and Anaconda and ships alumina to the United States and occasionally to other destinations. The massive expansion in the industry took place during the 1960's and early 1970's, and is reflected in the increase of alumina shipments from 714,000 tonnes in 1961 to 2,416 tonnes in 1973. In this same period the percentage of bauxite processed into alumina in Jamaica rose from 25 per cent to 46 per cent. Export shipments of dried bauxite also increased, from 5.05 million tonnes to 7.39 million tonnes. The Revere Company started up in 1971 and ceased production in 1975 (see tables 2 and 3). Jamaica became the world's leading bauxite producing country.

1/ Throughout the report reference is being made to the tables contained in the Statistical Annex below.

/The rapid

The rapid growth of the bauxite/alumina industry and the construction activity associated with the expansion of alumina processing refineries helped to Jamaica's economic growth throughout this period. Thus, real GDP grew at 5.9 per cent per annum for the 12 year period 1960 to 1972. This rapid and sustained overall growth rate was, however, associated with an increasingly severe unemployment problem and a deterioration in the already very uneven distribution of income. The unemployment rate grew from 13 to 23 per cent between 1960 and 1972 and in the last year 69 per cent of the employed labour force earned less than US$ 24 per week. Income distribution worsened; the share of the poorest 40 per cent of the population in personal earned money income declined from 7.2 per cent in 1958 to 5.4 per cent in 1969. 1/

b) Overall effects of the new fiscal policy

Government revenues generated by the industry increased sixfold after the imposition of the bauxite production levy of 1974, from U.S.$ 29.9 million in 1973 to U.S.$ 178 million in 1974. Yields from the levy and royalties in U.S. dollars were 185.4 million in 1974 increasing to U.S.$ 193.0 million in 1978 and reaching a total of U.S.$ 850 million for the five years 1974-1978 (see table 4). As a result, the share of the bauxite/alumina industry in government fiscal resources increased from 8.7 per cent in 1973 to 42.2 per cent in 1974. 2/ After 1975, general taxation rates and tax yields rose, while the levy yield fell, reducing the industry's contribution to government recurrent revenues to 29 percent in 1975 in 1975 and 22.8 per cent in 1976. By 1977, bauxite production levels had partially recovered from

---

1/ Government of Jamaica, Five year development plan, 1978-1982.

2/ This comparison is not formally correct, insofar the levy is not considered to be recurrent revenue, but an input into the Capital Development Fund of the country. Substantively, however, the levy is a source of earned fiscal revenue and is being used to finance also government's recurrent expenditure.

/The disaster

the disaster year of 1976 (aluminium prices reached 51 cents per lb) and the industry contributed 33 per cent to the government's recurrent revenue (see table 5). This ratio is likely to be marginally higher in 1978.

Local expenditures on wages; salaries, supplies and materials and other services make also an important contribution to foreign exchange earnings and to national income. Here, also, there has been a high increase in expenditures by the companies from a level of J$90.7 million in 1973 to J$207.7 million in 1978. Thus total returned value to Jamaica contributed by the industry has increased from J$120.5 million in 1973 to $383.1 million in 1978 and the share in total export value of bauxite and alumina reached 78% in 1978 as compared with 53% in 1973. (See again again tables 4 and 5.)

The above analysis shows clearly that the returned value, composed of payments to the government plus local non-capital expenditures by the companies constitutes the single most important source of foreign exchange to Jamaica. These payments are either denominated in U.S. currency (the levy) or are payable in Jamaican currency which has to be purchased with foreign exchange from the Bank of Jamaica. Given the severe balance of payments problems currently being experienced by the country, the returned value from the industry is a crucial factor in the foreign exchange budget. At the same time, this dependence of the country on company decisions concerning production levels in Jamaica places the government into a significantly weaker bargaining position that it enjoyed in 1974.

Evaluating the increased contribution of bauxite and alumina industry to the economy of Jamaica throughout the second half of 1970's two additional factors should be taken in account: the simultaneous increase in TNCs earnings and, on the other hand, of import prices. Taking the first factor, we can observe in table six that the aggregate net income of four major

/TNCs operating

TNCs operating in Jamaica (ALCOA, ALCAN, Reynolds and Kaiser) increased from U.S.$ 569 million in 1974 to 865 million in 1978, or by slightly more than a half, as compared with the above stated increase of levy and royalty paid to the Jamaican Government from U.S.$ 185 to 193 million or by only 4% (see tables 4 and 6). This ilustrates the well known fact that the foreign companies passed on the increased tax cost to the consumer prices reducing this way also the previous cost advantage of Jamaican bauxite vis-a-vis other producer countries.

The second important additional factor is the erosion of the gains from the bauxite and alumina industry due to quickly rising import prices. As can be seen in table 7, the returned value to Jamaica in 1978 is only by less than a half greater as it was in 1972—if account is taken of rising import prices. While it is obvious that this situation would have been immeasurably worse, were it not for the levy yield, the fact remains that current options available to the country with respect to its bauxite resources are severely circumscribed by the ability of the TNCs to obtain bauxite from other sources, and by the complex and close relations between them and international capital centers—markets—without whose finance Jamaica cannot develop and independent national industry.

c) Production and shipment problems in the 1974-1978 period

There has been a serious reduction in bauxite production in Jamaica since 1974. Production dropped from 15.3 in 1974 to 10.2 million tonnes in 1976, some 70 percent of the 1974 levels. Alumina production in the last year was just 50 percent of the level achieved in 1974. In 1977-1978 there was modest recovery with bauxite production in 1978 at 11.7 million tonnes (77 percent of the 1974 level) and alumina shipments at 2,1 million tonnes (77 percent of the 1974 level (see again table 3). There has also been in the same period a reduction of 1.8 million tonnes in bauxite capacity and of

/200.000 tons

200,000 tons in alumina capacity. Furthermore, in 1978, operating rates in bauxite mining were 82 percent and in alumina refining 77 percent (see table 8).

A number of factors have been responsible for the lower production levels by the companies being the most important among them: recession in the market economies; industrial accidents and strikes; phasing out of bauxite production by agreement and for technological reasons; collapse of the Revere company operations, loss of traditional markets and increased bauxite and alumina production in other producer countries, particularly Guinea and Australia. They are briefly characterized below.

(i) The recession of 1975

The industry suffered a serious decline during the 1974/75 recession in the market economies, resulting in cutbacks of primary aluminium production. In the peak year of 1974, the major producers operated almost at full capacity. Operating rates plunged in 1975 and further in 1976, due to a serious overhang of metal inventories. Primary aluminium production by the big four (ALCOA, ALCAN, Reynolds and Kaiser) fell from 5.8 million tons in 1974 to 4.8 million 1976, to recover to 5.8 million in 1978 (see again table 6).

The cutbacks in bauxite production by the companies affected with particular severity Jamaica and other Caribbean producer countries as well. It should be noted however, that bauxite production in Guinea increased from 6.4 million tons in 1974 to 11.3 million in 1976 and in Australia from 20.1 million tons to 24.1 million in the same period (see table 9).

(ii) Accidents and strikes

In 1975, disruptions due to lengthy strikes and plant closures resulted in the loss of 718,000 tons of bauxite and 30,000 tons of alumina production. The major disruptions occurred at the Kaiser Bauxite Company

/(eight week

(eight week long strike, loss of 500,000 tons of bauxite); Reynolds (one month closure, loss of 148,000 tons of bauxite); ALCAN (one month strike at the mine supplying Ewarton, loss of 70,000 tons of bauxite and 30,000 tons of alumina).

The year of 1976 was even worse, and resulted in the lost production of some 350,000 tons of alumina. An "incident" at ALCOA led to the sudden closure of the plant for 84 days. This was followed by a major explosion, which, with the closure resulted in the loss of 140,000 tons of scheduled alumina production. A 43 day strike at Alpart resulted in 150,000 tons of lost alumina shipments and a 35 day strike at one of the ALCAN refineries led to a production loss of a further 67,000 tons of alumina. Given the importance of alumina in export earnings the 1976 accidents and strikes were particularly damaging.

In addition, hydroelectric power shortages in the U.S. Pacific Northwest affected companies with smelters there and bauxite operations in Jamaica.

(iii) Phasing out of bauxite production by agreement and due to technological reasons

By agreement with the Government of Jamaica in 1967, a limitation had been put on ALCOA's export of bauxite from that country, as of the coming on stream of the company's alumina refinery in 1972. As part of its long term strategy of diversifying bauxite sourcing, ALCOA was heavily committed to 'take-or-pay' contracts for bauxite, both in Guinea and in Australia. The negotiated settlement between Jamaica and ALCOA thus reduced ALCOA's minimum bauxite requirements from 1.8 million to 1.2 million tons per year, a reduction of 600,000 tons of bauxite capacity. By the terms of this agreement, ALCOA will phase out all bauxite exports from Jamaica, and concentrate entirely on alumina shipments.

/Phasing out

Phasing out of bauxite due to technological reasons occured in the Reynolds company which experienced technical problems with the Jamaican bauxite in its new alumina plant at Stade, West Germany. The design of this plant was based on Australian (Weipa) bauxite, but the agreement provided for Reynolds to use Jamaican bauxite to blend with, or replace, the Australian ore. However, Reynolds found after extensive testing, that it could not use Jamaican bauxite at Stade, because of its adverse effects on the settling characteristics of the blend. As a result Reynolds was permitted to reduce the capacity of the local operations from 3.7 millions to 3.1 million tons.

(iv) Collapse of Revere Jamaica Alumina Ltd.

The Revere Alumina plant which came into production in 1971 was a fiasco from the start. It was poorly designed and never functioned properly, and closed down in August 1975. The bauxite equivalent of its 200,000 tons plant was approximately 500,000 tonnes per year. The total reduction in bauxite mining capacity resulting from the agreements with ALCOA and Reynolds and the closure of the Revere plant was approximately 1.8 million tons per year.

(v) Loss of traditionel alumina markets

Jamaica has been particularly hard hit by the heavy cuts in alumina production by ALCAN, whose shipments declined from a level of 1,128,000 tons in 1974 to 860,000 tons in 1977 (see table 10). This is largely due to ALCAN's loss of its traditional markets in Norway (300,000 tons) and Sweden (65,000 tons). As a result, ALCAN's Ewarton Alumina Plant is working at only 50 percent capacity. Norway has been traditionally Jamaica's largest market for alumina, due to ALCAN's historic interests in that country. In 1977, 28% of Jamaica's alumina shipments went to Norway but by 1978 this share had dropped to 15 percent (see table 11).

/ALCAN's two

ALCAN's two alumina plants are now 22 and 27 years old and the Company is evidently reluctant to spend money on upgrading. In particular the Ewarton plant will need to be converted into a high temperature plant, entailing investment expenditure. At one stage in the negotiations between Jamaica and ALCAN, the Company expressed the wish to sell out to Jamaica. As explained later in this report, Jamaica's agreements to sell alumina to nontraditional markets, including Venezuela, is dependent on ongoing discussions with the Companies, including ALCAN, for the reactivating of their idle capacity. Meanwhile, Jamaica is trying to find means whereby it could continue to supply the Norwegian smelters with alumina. Norway has signed a technical cooperation agreement with Jamaica.

There is also a problem at Alpart, where energy use is not efficient and existing sources of bauxite to feed the refinery are mined out. A shift to new mines will entail considerable investment expenditure including infrastructure. Alpart is the only TNC operating in Jamaica with which no new agreement has, as yet, been reached.

(vi) Jamaica's competitive disadvantage vis-a-vis other producers

While all the factors cited have undoubtedly had their effects on Jamaica's falling production levels, other producing countries—or more exactly, TNCs operating there—have substantially increased bauxite and alumina production. Thus, Guinea increased bauxite production from 6.4 million tons in 1974 to 10.9 million in 1977 (an increase of 4.5 million tons) and Australia from 20.1 million tons to 26.1 million in the same period (an increase of 6 million tons). Moreover, the transnationals have plans for very substantial increases in capacity, both in Guinea and in Australia. (See again table 9.)

Jamaica is by no means the only country which has suffered cutbacks of production by the aluminium companies. The four Caribbean

/countries which

countries which host aluminum companies have suffered a drop of production from 23.8 million tonnes in 1974 to 17.7 million in 1977, representing a reduction in share of world production from 30 per cent to 21 per cent. Their share in IBA countries production has fallen from 41 percent to 28 percent in the same period (see again table 9).

d) New negotiations with TNCs

It has been clear, for some time now, that the upward movement in the Jamaican Levy perton, indexed to the strong increases in primary aluminium prices since 1974, has placed Jamaica into a precariously high —cost situation vis-a-vis the availability of bauxite and alumina to the companies from other sources. The average realized price of a lb of aluminium ingot, used to obtain Jamaica's statutory bauxite levy has moved from U.S.$38.8 cents in 1975 to 60,0 cents in 1979. The levy per ton is set at U.S.$20.23 for 1979, which is almost twice as much as the U.S.$ 11.2 in 1974.

For this reason, the complaints of the companies concerning the discriminatory nature of the dual exchange rates introduced by Jamaica in April 1977 was accepted as having some validity. The companies were obliged to purchase Jamaican currency at the (old) basic rate of J$1 = U.S.$1 while other purchasers operated at a devalued special rate of J$1.00 = U.S.$0.80. In January 1978, the basic rate was marginally devalued at J$1.00 = U.S.$0.95, while the special rate was also marginally devalued. The intention of the dual exchange rate system was to use the foreign exchange earnings from bauxite/alumina to subsidise the import of essential goods for the population. While this scheme was a very reasonable one in terms of social justice, the trade-off came in term of an escalating reluctance on the part of the foreign companies to undertake expenditures in Jamaica, even those necessary to maintain equipment and production levels.

/In May

In May 1978, when Jamaica agreed to the terms of the three year IMF Extended Fund Facility, the dual exchange rate was abolished, and a further devaluation of the Jamaican dollar resulted in a unified exchange rate of J$1.00 = U.S.$ 0.65. Since that time, a series of mini-devaluations have further reduced the value of the Jamaican dollar to U.S.$0.57.

Retroactive adjustment, beneficial to the companies was made, and the companies, on their part, agreed that they would not, in 1978, reduce their U.S. dollar contributions to Jamaica's foreign exchange reserves below the 1977 level and, in 1979, they would not fall below 95 percent of 1977 level. Insofar as their actual requirements for local inputs will be less than these sums, the balance is in effect a loan of foreign exchange made in the form of deposits to the local banking system.

In May 1979, the Minister of Finance of Jamaica announced that negotiations were to be opened with the bauxite companies with a view to increasing their incentives for increased production in Jamaica. He conceded that Jamaica had been losing its share of the world market because, in spite of its advantages, the levy was pegged at a higher level than that of other countries and hence an adjustment of the levy would be an incentive to increased production. These talks are presently proceeding. It is understood that Jamaica is basically asking the foreign companies to expand bauxite production by 2 million tons, while maintaining current total levy yields—implying a corresponding reduction in the levy rate.

e) Jamaica's initiatives with respect to national production and trading in alumina

In the previous sections of this report, we reviewed developments in Jamaica's bauxite/alumina industry since the imposition of the Production Levy of 1974. The TNCs have substantially reduced production of bauxite and their alumina refineries are working well below capacity; the restoration of production to 1974 levels require expenditure both in the mining and

/particularly in

particularly in the refining stages by the companies. The companies have to date not exhibited any great willingness to undertake those expenditures although ongoing negotiations with the government may yield them the necessary incentives.

The Government of Jamaica has been active in seeking to secure new non-traditional markets for alumina, and also plans expansion on its own account, i.e. by a Jamaican state bauxite/alumina enterprise. Until such time as Jamaica acquires its own sources of alumina from the coming into effect of the agreements with ALCOA and ALCAN and, more importantly, by the construction of its own alumina refinery, alumina sales contracts negotiated with a number of countries will have to be filled by the purchase of material, particularly from ALCAN, which has close to 300,000 tons of idle alumina capacity and has lost traditional markets.

Jamaica stands to gain short and long term benefits from expansion of production levels, both by the companies and by its own state-owned enterprise. The Government of Jamaica has been active in securing a number of short and long term alumina sales agreements and is continuing in its efforts to put up a 600,000 ton capacity alumina plant. Insofar as alumina purchased by the government from the TNCs for beneficial resale to third parties would raise production levels, there is a clear advantage to Jamaica to such agreements. The government is offering substantial incentives to the TNCs to activate their idle production capacity on terms which are not subject to the provisions of the bauxite levy. Jamaican bauxite reserves estimated at some 2,000 million tons, are sufficient to meet contractual commitments to the companies assuring them of forty years of guaranteed supplies with plenty of reserves for its own production facilities.

/In this

In this section of the report we summarize the current situation with respect to government—to government joint venture agreements and sales contracts with non-traditional trading partners, i.e. Governments or Government enterprises which have not traditionally purchased alumina from Jamaica.

(i) The Trinidad-Guyana-Jamaica joint venture to establish a Caribbean aluminium smelter

The proposal to establish regional smelting capacity as a joint venture between the Governments of Trinidad and Tobago, Guyana and Jamaica was announced by the Prime Ministers of the three countries concerned just in June 1974. Prior to that time, negotiations had been in progress between the Governments of Trinidad and Guyana for a two phase programme: Phase I to consist of a 120,000 ton smelter in Trinidad, utilizing natural gas purchased from Amoco's new oil and gas operations as energy input and Phase II to consist of a 200,000 ton smelter in Guyana utilizing that country's extensive hydroelectric power potential. When Jamaica joined the other two Governments in the discussion of the proposed joint venture, the capacity of the Phase I Trinidad smelter was increased to 200,000 tons, with alumina feedstock to be supplied by Jamaica, as well as Guyana.

Ownership of the Trinidad smelter project was to be on a 33-33-34 per cent basis, with no equity partnership by TNCs. In the case of the Guyana smelter the ownership was to be as follows: Guyana 52, Trinidad 24 and Jamaica 24 percent.

The June 1974 Agreement came one month after Jamaica has legislated its new bauxite production levy and had been instrumental in the setting up of the International Bauxite Association. Guyana and Trinidad had both expressed their support of the Production Levy.

By the end of 1974, the momemtum behind the regional smelter project had distinctly slowed. The Trinidad and Tobago Government announced

/that the

that the construction of the smelter would have to be delayed by some three years because it would require a large expansion in electric generating capacity, and also in water supply equal to the country's current water capacity. Furthermore, early in 1975, Jamaica announced the proposal to construct the Jamaica-Mexico-Venezuela alumina-aluminium complex (see points (ii) and (iii) below).

The Government of Trinidad and Tobago expressed his displeasure with this newly intented joint venture considering it a threat to the joint smelter project in Trinidad. It was also reported that Trinidad was concerned about the risks of marketing the aluminum metal, and other competing claims on its natural gas.

In July of 1976, the CARICOM Smelter Project was scaled down to 75,000 tons for Phase I (Trinidad) and 150,000 tons for Phase II (Guyana), by a meeting of the Energy Ministers of the three countries. The reason given related to the market situation. Later in November of this year, a U.S.$ 150 million contract was awarded to the Kaiser Corporation for the construction of the scaled down smelter at Point Lisas in Trinidad. The company was selected jointly by the three participating governments due to its capacity to offer project design, marketing and credit. Nevertheless, in 1977, the Government of Trinidad and Tobago took the decision to make the project their own, rather than a regional one, including an option for Guyana and Jamaica to participate and supply alumina.

Jamaica has expressed its interest in taking an equity if it is offered, and a willingness to supply as much alumina as Trinidad wished from Jamaica. In the middle of 1979 after nearly five years of analysis and study, the decision whether or not to implement the common CARICOM still has not been taken.

/(ii) The Jamaica

(ii) The Jamaica-Mexico (Javemex-Jalumex) joint venture

In 1975, the Jamaican Government entered into negotiations with the Government of Mexico with respect to a joint venture project, whereby Jamaica would provide alumina as feedstock for an aluminium smelter to be established in Mexico, in order to substitute some 150,000 tons of imported primary metal. Heads of Agreement signed in the same year provided for the establishment of two joint venture companies, one to produce alumina in Jamaica (Javemex) and the other to produce aluminium in Mexico (Jalumex). Jamaica had to participate with 29 per cent in the ownership of the Mexican smelter Jalumex with a planned capacity of 160,000 tons per year. Mexico's share was to have been 51 per cent, with resting 20 per cent reserved for other partners, including a TNC to construct the smelter. On the other hand, Mexico agreed to take a 29 per cent interest in the Jamaican Alumina Refinery project, being Jamaica's share 51 per cent, Venezuela's 10 per cent; and other parties also 10 per cent. The other party to the Javemex project might have been a TNC or a third contractual purchaser of alumina, such as Algeria.

The Javemex alumina refinery was to be located on a 2,000 acre site in South Manchester and was expected to be completed and come into operation in late 1979 or early 1980. A study of the pollution problems connected with the disposal of industrial wastes was undertaken and expert staff assembled. Construction was was to have been contracted to one of the alumina companies operating in Jamaica, probably Kaiser. In August of 1977 a visiting Mexican Trade Commission signed an agreement with the Jamaican Government covering a line of credit for the importation of some of the necessary machinery and equipment for the construction of the alumina plant.

In 1978, the Government of Mexico withdrew from all contractual agreements relating to the Jalumex smelter project. At the time of this decision Mexico was to have held a 71 per cent interest in the smelter.

/Among factors

Among factors contributing to the collapse of the Jamaica-Mexico joint venture were the problems experienced by both countries in financing their shares of the venture, and an adverse report on the escalation of costs of the Mexican smelter by ALCAN, the company which had been selected to construct the smelter(although this TNC had previously found the Mexican smelter a feasible and economic project).

As a result of Mexico's decision to withdraw Javemex ceased to exist as of September 1st, 1978 and has been absorbed into Jamaica Bauxite Mining Ltd. the state owned subsidiary of the Jamaica National Investment Corporation. This decision was aimed at retaining the expertise built up within the national industry rather than dismantle the organization and lay off the qualified staff. Initiatives to reactivate the alumina refinery project are ultimately related to long term supply contracts between Jamaica and non-traditional purchasers. These will be described below with respect to negotiations involving Venezuela, Algeria, Hungary, the Soviet Union and Norway.

(iii) Alumina Sales to Venezuela

Venezuela is developing aluminium smelting capacity which is likely to amount to 520,000 ton per year by the mid 1980's. Present capacity is 112,000 ton per year which represents the output of a joint venture between the state-owned CVG and the Reynolds Company, located at Puerto Ordaz. Alumina is being supplied from Reynolds U.S. refineries and hydroelectric power provided by a wholly owned CVG subsidary. The second smelter,—New Venalum coming on stream with a capacity of 70,000 ton per year is planned to expand to 280,000 ton per year by 1982. It is located at San Feliz in the Guayanás and owned 80 per cent by CVG with the remaining 20 per cent shared among five Japanese companies which have options on most of the output. As Venezuela's domestic aluminium consumption is

/estimated at

estimated at approximately 80,000 ton per year it will become an important exporter in the next years. Furthermore, considerable bauxite deposits have been discovered in the Sierra de Los Pijiguanos Zone in Bolivar State with total reserves estimated at 500 million tons with average aluminum content of 48.9 per cent. Venezuela's new found bauxite deposits cannot however, come on stream until the mid or late 1980's. Meanwhile there are plans for the construction of an alumina refinery at Puerto Ordaz, with initial capacity of one million ton per year, based on imported bauxite and constructed by Interalumina with Alusuisse technology. The later TNC is also undertaking a study relating to the exploration of the bauxite deposits and the feasibility of constructing the above mentioned alumina refiner. It is against this background that the sales contracts between Jamaica and CVG are to be viewed.

Talks between Jamaica and Venezuela were initiated in 1975, and at that time included the above characterized participation in the Javemex alumina refinery project. In August of 1977, Jamaica and Venezuela signed a seven year agreement whereby Jamaica undertakes to supply Venezuela with a total of one million tons of alumina with annual delivery of 150,000 tons for the first six years and final 100,000 tons in 1984.

The Jamaica-Venezuela sales agreement is currently being renegotiated, on terms comparable with prices offered by Venezuela's other alumina suppliers—Metallgesselleschaft, Billiton and Phillips Brothers, acting as purchasing agents for the Venezuelan state company. Another cause of the uncertainty in this otherwise simple transaction had been the uncooperative attitude by ALCAN. In the mid 1979 there was still no confirmation of the existence of a "back-to-back" agreement with ALCAN to produce and sell the alumina destined for Venezuela.

/The Venezuela

The Venezuela state owned aluminum enterprise is, and will continue for the next 5 - 7 years to be a large purchaser of alumina. ALCAN has at this time, close to 300,000 tonnes of idle alumina capacity sufficient to produce and deliver two million tons to Venezuela during this period. It is clearly beneficial both to Venezuela and to Jamaica that this capacity be reactivated. The Jamaica-Venezuela alumina sales arrangement is thus entirely dependent on the willingness of ALCAN to sell alumina to Jamaica, for on-ward resale to Venezuela, on terms which offer Jamaica a positive trade margin and are nevertheless competitive with Venezuela's other sources. Until the coming into effect of the ALCOA and ALCAN agreements which entitle Jamaica to 110,000 ton per year of alumina, Jamaica has no alumina of its own and has to come to terms with the TNCs controling the mining and refining capacity of the country. This limitation was the rationale of the Javemex project, and continues to be the rationale of the proposed South Manchester refinery.

(iv) Sales agreements with Algeria, Hungary and the Soviet Union

Following the above described collapse of the joint venture projects, related with the construction of a state-owned alumina refinery in South Manchester, with capacity of 600,000 tons, the Government of Jamaica has been exploring the possibilities of revitalizing this project on the basis of long term sales contracts with the Soviet Union, Hungary and Algeria.

In April of 1979 a governamental mission visited the Soviet Union and signed a long term agreement for a sale of 250,000 tons of alumina per year commencing approximately in 1984, the year in which the new alumina plant would come on stream. Additionally, previously negotiated long term agreements with Hungary and Algeria for the sale of 150,000 tons yearly to each of these two countries, also commencing in 1984 have been

/reconfirmed.

reconfirmed. 1/ Thus Jamaica would deliver, since 1984, some 550,000 tons of alumina per year to non-traditional markets, a volume almost corresponding to the projected capacity of the new alumina refining plant.

None of these agreements are as yet contractual. Algerian alumina requirements are contingent upon the construction of a 127,000 tons per year smelter to be fuelled by natural gas and constructed with Soviet Union technology and credits at M'Sila, about 100 miles from Algiers. Hungarian long term alumina purchases relate to plans to expand that country's aluminium industry. Hungary's commitments to buy Jamaican alumina are contingent upon the agreement to utilize Hungarian technology, machinery and equipment for the construction of the new South Manchester plant.

In this connection, it was announced on April 30th 1979, that construction of the $500 million alumina plant is to begin at the end of this year, with Hungarian technology. The plant will have 600,000 tons per year capacity and will be fully owned by Jamaica Bauxite Mining Ltd. on behalf of the Government of Jamaica. Aluterv-FKI of Hungary which did the feasibility study on the Javemex project, are the designers and process engineers, and Hungarian export credit facilities amounting to $250 million have been arranged for the supply of equipment necessary for the project. It is estimated that more than 1,000 workers will be employed at the peak of construction and some 600 are expected to be permanently employed when production starts up at the end of 1983.

The financing of the South Manchester plant is however, far from assured. In addition to suppliers credit for plant and equipment provided by Hungary, there is need to raise additional amount of some other $250 million

---

1/ Statement by Jamaica's Minister of Mining, Mr. Horace Clark, on April 25th, 1979.

/of loans.

of loans. The Government of Jamaica, which must put up a certain amount of equity in regard to local costs of site work, roads and infrastructure is severely restricted in its capacity to borrow both domestically and abroad, by the IMF guidelines which govern its economic and fiscal operations. As for the international capital market, it is reported that long term sales contracts to socialist countries are not normally accepted as collateral for the financing of mineral resource projects. However, there exists a possibility that Hungary, which has a expanding aluminium industry may be able to play a key role in providing the necessary bank financing.

In the case of the Soviet Union agreement for the long term purchase of alumina from Jamaica, there is no doubt as to present and future requirements of this country for imported alumina. The Soviet Union is an important purchaser of alumina from a number of countries. Among important questions to be settled are those relating to freight and price. The Soviet Union purchases alumina delivered to the country's ports, i.e. responsibility for delivery of material rests with the supplier. The Government of Jamaica has announced that it intends to expand its Merchant Marine to enable it to benefit from the long term alumina contracts. Negotiations are proceeding with the Government of Norway with respect to the possibility of acquiring new vessels, on a long term basis corresponding to the 250,000 tons per year which Jamaica has agreed to supply to the Soviet Union.

In addition to the long term agreements described above, two new short term sales of 200,000 tons of alumina per year were obtained by Jamaica from the Soviet Union and Hungary in April 1979. The Soviet Union is to purchase 50,000 tons per year, and Hungary 150,000 tons per year, for five years

/commencing in

commencing in 1980. In clarification of questions concerning prices, Jamaica's Minister of Mining, Mr. H. Clark stated on April 25th, 1979:

> "It is conservatively estimated that the price of aluminium ingot in the period 1980 to 1983 should average in excess of 60 cents per pound and on the basis of the percentage relationship between the price of alumina and that of aluminium ingot used in medium and long term contracts and shipping costs, an average delivered price of $200.00 per ton for the period is a reasonable expectation".

For the period 1980-1983 the alumina to be delivered to the Soviet Union and Hungary would be obtained from existing TNCs local operations, presently working under capacity. Foreign exchange payments will have to be made to obtain these supplies and, on the other hand, the USSR payments will be made in freely convertible currency. It should be noted that the Soviet Union buys alumina from TNCs on a spot market basis, in addition to obtaining a fixed portion of its supplies on a long term contractual basis. The agreement with Jamaica has given that country a portion of the Soviet Union's fixed long term purchases. Jamaica will however, continue to be aligible, through the TNCs, for spot market USSR purchases through the brokers.

As in the case of the Venezualan sales agreement described above, the alumina to be sold to the Soviet Union and Hungary from 1980-1983 will have to be obtained from the TNCs operating in Jamaica. This alumina could come partially from the partnership arrangements with ALCOA and ALCAN (33,000 tons per year and 77,000 tons per year respectively) whenever these agreements come into force. Alternately the alumina should be purchased from any one of the three companies operating in Jamaica (ALCAN, ALCOA or ALPART).

/The restoration

The restoration of bauxite production to 1974 levels on the basis of new markets for alumina would yield a considerable increase in foreign exchange, government revenue from Production Levy and royalties and foreign exchange in terms of wage bills and miscellaneous local services provided to the bauxite industry.

In spite of the many factors of uncertainty which still surround Jamaica's agreements with the Soviet Union, Hungary and Algeria, they represent an important advance insofar as they lessen the dependence surrounding Jamaica's long term prospects in external markets for bauxite/alumina. In an interview broadcasted on Jamaican radio on May 3rd, 1979, Dr. Carlton Davis, Executive Director of the Jamaica Bauxite Institute who visited both the USSR and Hungary in connection with the recent Prime Ministerial tour to Moscow, assessed the significance of the agreements as follows:

> "Since 1974, the Jamaican bauxite and alumina industry has been undergoing a relative decline. There are numerous reasons for this, reasons which some people attribute to the Jamaican Bauxite Levy. There have been industrial disputes and all sorts of incidents which resulted in massive cuts in production, particularly in 1976 which cost us as well over $40 million of foreign exchange. Then there has been definite diversification strategies by some of the companies: that is buying bauxite and alumina elsewhere. This has resulted in reduced production at the two north coast bauxite mining operations (Reynolds and Kaiser), and significantly at Ewarton (ALCAN). For some time now the Ewarton Works has been operating at half capacity. This has resulted in laying off workers and severe economic effects on the people in the area.
>
> What we have is a situation that if Jamaica continues on the random development in the market economies, one cannot tell what is in store for us. So the development over the last few weeks in USSR and Hungary represent a very significant change in that we have assured ourselves guaranteed markets for 200,000 tons of alumina to those two places for the next 4-5 years and to the USSR specifically 250,000 tons per annum commencing about 1984".

/2. TECHNICAL ASPECTS

2. TECHNICAL ASPECTS OF THE BAUXITE PRODUCTION LEVY ACT OF MAY 1974

The new production levy on bauxite was imposed in May 1974, retroactive to January of this year by the Bauxite Production Levy Act, administered by the Ministry of Finance.

The principal provisions of the Levy Act are as follows:

a) The levy is payable on the production of bauxite mined, whether for export or local processing to alumina, and is indexed in terms of U.S. dollars per long dry ton on the average realised price of primary aluminium (ARP).

b) For the year 1974 the Levy was set at $7\frac{1}{2}$ per cent. It was equal to:

$$\frac{.075 \times \text{ARP per lb. of ingot} \times 2000}{4.3}$$

The 4.3 factor is the bauxite equivalent in long dry tons of one short ton (2000 lbs) of metal based on a bauxite/alumina conversion factor of 2.2 LDT/ST and an alumina/aluminium factor of 1.95.

c) The Average Realised Price refers to the average annual price realised for primary aluminium sales of grades of 99.5% and better by the three U.S. companies—namely, Kaiser, Reynolds and ALCOA, as determined from their annual form 10-K Report to the U.S. Securities and Exchange Commission.

d) The Levy is payable quarterly on a minimum tonnage set at 14 million long dry tons, or about 90 per cent of production capacity.

e) The annual price per lb. of primary aluminium is determined in two stages. In the first quarter of the year, the government sets a basic rate based on projections and guess estimates concerning the actual ARP. The ARP is calculated on the basis of form 10-K and the basic rate is then adjusted.

/f) The Minister

f) The Minister of Finance is empowered to change the basic rate on the minimum total tonnage level; and bauxite producers may apply for waiver, reduction or refund of levy.

g) Proceeds from the levy are paid into a Capital Development Fund which may be drawn upon for any government purpose, subject to approval by the House of Representatives.

h) The rate of levy was to be raised from 7½% to 8% and subsequently to 8½. Although the levy rate applied has never exceeded 7½% the reference to the higher rates remains in the legislation.

The Levy is denominated in U.S. currency and is payable in U.S. funds. In addition to the provision pertaining to the Levy, the royalties rate per long dry ton of bauxite mined was raised to 50 cents (J$). The royalty is denominated in Jamaican currency.

The following table shows the amount of the production levy per ton for years 1974 to 1979. The first column represents the levy per ton required to be paid on the basis of the levy formula described. For the years 1975 to 1977, the figure represents the Levy as obtained from the Average Realized Price (ARP) of primary metal. For 1978 and 1979, levy rates are based on the so called basic price, i.e. the estimated average price for the year concerned. The second column is derived by dividing the total annual levy yield by total annual bauxite production. In so far as it is lower than the levy rates shown in column 1, this represents rebates negotiated with the companies. Rebates are made by the Government for a number of reasons, including unforeseen production problems encountered by the companies, and incentives to increase production for sale to non-traditional markets. The third column shows total annual levy yield in U.S. dollars.

/Production Levy

Production Levy (including Corporate Taxes)

Year	Levy per long dry ton U.S.$/Ton		Total Yield
	Levy as per Formula (1)	Actually Paid (2)	U.S.$(3) Millions
1974	11.16 (Est.)	11.78	177.7
1975	13.6 (Realized)	12.93	147.2
1976	14.83 (Realized)	12.45	125.0
1977	17.78 (Realized)	16.32	183.6
1978	18.59 (Basic)	16.27	185.5
1979	20.23 (Basic)	..	..

Source: Jamaica Bauxite Institute Digest, July 1978.

From the above table it is evident that companies have not in fact been required to pay levy on capacity—although it was the intention of the legislation to tax the companies on the basis of production levels set at 90 per cent capacity utilization (14 million tons) regardless of whether they chose to operate at that level or not. Indeed, the companies have been able to negotiate rebates and various similar concessions, and have not in fact paid the full 7.5 per cent rate on their actual production. Taking rebates into account, the effective levy rate has been 7.1 percent in 1975; 6.3 percent in 1976, 6.9 percent in 1977 and 6.6 percent in 1978.

/3. PROVISIONS OF

3. PROVISIONS OF THE AGREEMENTS BETWEEN THE JAMAICAN GOVERNMENT AND THE FOUR MAJOR BAUXITE/ALUMINIA COMPANIES

After imposing the new bauxite levy in 1974 the Government of Jamaica has signed agreements with four major companies operating in the country. These agreements, in order of signing, were concluded with ALCOA (October 6th, 1976), KAISER (February 2nd, 1977), REYNOLDS (March 31st, 1977) and ALCAN (September 25th, 1978). No agreement has yet been signed with ALPART. The term of all four agreements is forty years, as of the date of their coming into effect. As mentioned above, negotiations currently in progress with all four Companies may result in changes of some of the provisions in particular those pertaining to the Production Levy. It is expected that all four agreements will be fully ratified and come into effect no later than January 1980.

There are basically two types of agreement--those negotiated with Kaiser and Reynolds, and those negotiated with ALCOA and ALCAN. The former provide for a 51 per cent equity by the Government of Jamaica in Joint Venture partnerships in mining operations with management functions remaining with the TNCs. Shipments will continue to the refinery facilities of the Companies in the U.S.

The agreements with ALCOA and ALCAN convert the value of 51 per cent of the mining assets of each of the companies to a corresponding equity participation by the Government of Jamaica in the overall operations of the two Companies, including their alumina refinery facilities. This results in the JAMALCO partnership between the Government of Jamaica (6 per cent) and ALCOA (94 per cent); and the similar Jamaican partnership with ALCAN whereby Jamaica has a 7 per cent interest and ALCAN a 93 per cent interest. In the case of the ALCOA and ALCAN joint venture agreements, the Government of Jamaica will receive an alumina entitlement proportional to its equity

/participation of

participation of 33,000 tons in the case of ALCOA and 77,000 tons in the case of the ALCAN agreement, with unrestricted rights to sell this material.

The detailed provisions of the four agreements are overviewed below.

a) The Jamaica-ALCOA Agreement and the JAMALCO Joint Venture Agreement of 1976. 1/

Although the government of Jamaica first approached the Kaiser and Reynolds Companies resulting in Heads of Agreement, the Agreement with ALCOA was in fact the first to be signed on October 6th, 1976. The principal negotiating positions of the two parties to the agreement can be summarized as follows:

On the part of the government

- that mining land acquired by the companies revert to national ownership;
- that the government acquire majority equity participation in all mining activity;
- that the government obtain a fair return for the country's major physical resource in the form of a Production Levy indexed to the real price of aluminium ingot in the market place;
- that government should have the option of participating in alumina processing.

On the part of the ALCOA Company

- that the Company be assured of control over all basic operations of mining and alumina refining;
- that the Company have guarantees concerning future cost stability and access to bauxite material;
- that the Company receive some relief from the Production Levy of 8 per cent for 1976.

1/ Compiled from Jamaica-ALCOA 1976 Agreement, Press Release, October 6th, 1976; Jamaica Bauxite Institute Digest, December 1976 and interview with M.P. Crouch, of ALCOA Jamaica, November 1977.

/The Company

The Company was particularly insistent that it be in total control of the Halse Hall alumina refinery which was completed in 1973 with initial capacity of 550,00 tons of alumina and with provisions for future expansion up to 1,650,000 tons. According to the Managing Director of the ALCOA subsidiary in Jamaica, "ALCOA needs to have control from raw material source to the alumina plant, in view of its recent investments in expansion".

In response to ALCOA's basic requirements and in compliance with the priorities of Jamaica, the Government proposed the conversion of its claims to 51 per cent of mining assets to a 5 per cent equity in the whole overall operations of the Company in Jamaica. This forms the basis of the agreement described below: All surface lands will be purchased by the Government from ALCOA at written down book value. The Government undertakes to lease to the Company such lands as are necessary to its mining operations for the next forty years, with provisions for expansion of present levels of ALCOA operations. The major provisions of the agreement are:

(i) The government is to acquire all mineral and non-operating lands held by ALCOA comprising some 7,000 acres, for an amount not exceeding the original acquisition cost of U.S.$2.5 million. Payment by the Government of Jamaica for land acquisition is to be made by a 10 per cent initial payment in US funds, the remainder to be paid in nine annual installments at 7 per cent interest on the unpaid balance.

(ii) The government is to acquire 51 per cent of the mining assets of estimated replacement value of US$18 million at written down book value of approximately US$8 million. Payment to be made by a 10 per cent initial transfer in US funds, the remainder to be paid in nine annual installments at 8½ per cent interest on the unpaid balance. This converts to a 6 per cent interest in the joint venture partnership (JAMALCO) which will operate all mining, refining and shipping facilities presently belonging to ALCOA in Jamaica.

/(iii) ALCOA is

(iii) ALCOA is granted a special mining lease which will make available to the Company bauxite sufficient for forty years of operations based on the present capacity of the alumina refinery (550,000 tons) with provisions for expansion.

(iv) The Production Levy is fixed at $7\frac{1}{2}$ per cent of the annual realized price of aluminium ingot for a period of eight years from January 1st, 1976 to December 31st, 1983, after which is open to review. (This implies that ALCOA was retroactively exempted from the 8 per cent Production Levy rate set for the year 1976.)

(v) The Government of Jamaica and ALCOA Company agreed to a Joint Venture partnership between Jamaica Bauxite Mining Ltd (6 per cent) and ALCOA Minerals of Jamaica, Inc. to be called "JAMALCO". Under the terms of this agreement, each party is solely responsible for the marketing and other disposition of its Alumina Entitlement, i.e. "nothing shall limit or otherwise restrict any Member's right to sell bauxite or alumina delivered to it by the association (JAMALCO) at such price, to such persons and such terms and conditions as such Members in its sole discretion shall determine". Jamaica's entitlement is 33,000 tons of alumina.

(vi) Either partner of the JAMALCO joint venture may undertake expansion of the existing plant in increments of roughly 300,000 tons per year to a maximum total capacity of the refinery of 1,650,000 tons per year. This gives Jamaica the opportunity of acquiring a majority share in the joint venture, provided Jamaica puts up the capital for expansion.

(vii) ALCOA retains the management function of the Joint Venture JAMALCO and supplies technology in accordance with a Technology License agreement between the JAMALCO partners.

(viii) Any expansion by Jamaica Bauxite Mining Limited of the present capacity of the alumina refinery (550,000 tons) will have to be constructed by the ALCOA Company, on the terms of an Engineering and Construction Contract

/which forms

which forms part of the JAMALCO Venture Agreement using the proprietary technology of the ALCOA Company.

(ix) Jamaica will have two members on the total of seven persons in the Executive Committee of JAMALCO. Jamaica's first two appointed directors are the Hon. Mayor Matalon and Dr. Carlton Davis.

(x) ALCOA will on completion of the necessary enabling legislation and upon the full restoration of the Halse Hall alumina plant subsequent to the major explosion of 1976, withdraw proceedings filed with the International Centre for the Settlement of Disputes (ICSID). The Agreement provides for settlement of disputes either in the Courts of Jamaica, or by special Arbitration procedures by a tribunal of three persons, one to be nominated by each of the two partners and a neutral Chairman to be agreed upon by both parties. In the event of failure to agree on a Chairman of the Arbitration Tribunal, such a Chairman shall be appointed by the President of the Law Society of England.

At the signing ceremony which took place at Jamaica House in Kingston on October 6th, 1976, Prime Minister Michael Manley expressed satisfaction with the agreement:

> "This agreement embodies the acceptance by ALCOA, the world's leading aluminium producer, of the principle of national control of Jamaica's bauxite resources. At the same time, it provides ALCOA with a guaranteed long term ore supply and predictability of a major cost factor, thereby establishing a secure and stable business environment in which to operate. The Government of Jamaica has sought, among other things, to make two things clear since it took office in 1972. Firstly, we have absolutely no interest in using our bauxite for purposes of political manipulation: we have absolutely no interest in denying anyone our bauxite. Our sole interest is in a fair price, and a fair deal. Our bauxite is no good to us lying in the ground; but we will not give it away. This government will not and no future government of Jamaica can sell the nation's birthright for the proverbial mess of pottage. We are in a race to build a nation, and a race against desperation and self-perpetuating poverty.
>
> /Secondly, we

Secondly, we have made it clear that we welcome foreign capital on terms that are consistent with national sovereignty and the interests of our people as a whole. This was reconfirmed in an official statement on Democratic Socialism in November 1974".

Mr. W.H. Krome George, Chief Executive Officer of ALCOA, equally expressed satisfaction with the agreement:

"This new agreement is much more than just an understanding on bauxite levies. It goes far beyond those matters which had been in dispute. It established a new stable relationship between the government and ALCOA in a forty year agreement with flexibility in financial arrangements. The agreement gives us the kind of stability and predictability we need for long term planning. It provides Jamaica with a direct base for sharing the financial rewards of the industry. I see this as a winning situation that works. This agreement offers something to both sides. It is the result of negotiation and responds to today's needs both for Jamaica and for ALCOA".

b) The Jamaica/Kaiser Agreement of February 2nd, 1977 1/

Subsequent to the breakdown of the 1974 negotiations between the government and the company and the unilateral imposition of the Bauxite Production Levy by the Government of Jamaica, the Kaiser Company reopened negotiation with the Government in October 1974. Although Kaiser was the first of the companies approached by the government and the only U.S. Aluminium Company operating in Jamaica which did not refer the 1974 Production Levy dispute to OPIC, the agreement between Jamaica and Kaiser was not concluded and signed until February 1977. Negotiations were long

1/ Compiled from: Agreement between Government of Jamaica and Kaiser Bauxite Company, February, 2nd, 1977 (full text), securities and Exchange Commission 10 K, Kaiser Aluminium Chemical Corp., Fiscal Year, December 31st 1977; Interview with Mr. Hannibal, Kaiser Mining Corp, Kingston November, 1976; IBA Quarterly Review, March 1977; Interview with Dr. C. Davis, Jamaica Bauxite Institute, January, 1977.

/and difficult

and difficult and not assisted by reports that the Kaiser Company supported the opposition party in the December 1976 Jamaica Election.

The major terms of the agreement are as follows:

(i) Kaiser will sell to the Government of Jamaica for book value of approximately, US$ 15 million, the 48,000 acres of bauxite lands not required for plant operations. Payments to the government will be made in ten equal annual installments with a 7 per cent charge on the unpaid balance.

(ii) Kaiser will sell 51 per cent of its mining assets to the Government of Jamaica for approximately US$ 11 million at written down book value. Payment is to be made in ten equal annual installments at an interest rate of 8½ per cent on the unpaid balance.

(iii) Kaiser Bauxite will receive rights to a forty (40) year supply sufficient for Kaiser's Aluminium facilities at Gramercy and Baton Rouge in the United States. In return for these rights, Kaiser Bauxite will pay annually 7 per cent of the Government's purchase price for the land under mining lease.

(iv) Kaiser is to pay the Production Levy of 7.5 per cent on the average realized price of primary aluminium received by ALCOA, Reynolds and Kaiser computed on a three-company arithmetic average as reported in each Company's Book Report filed with SEC from January 1974 to December 31st, 1983. (This exempts Kaiser from the 8 per cent levy rate set for 1976.)

(v) Kaiser Bauxite shall be entitled to a reduction of one half per cent on the Production Levy rate in each year from January 1st, 1977 to December 31st, 1983 subject to two conditions:

- that the total quantity of bauxite subject to the Production Levy moved by Kaiser Bauxite and Jamaica and/or applicable to Kaiser Jamaica's interest in Alpart shall not be less than 3 million long dry tons;

/-sales of

- sales of aluminium to third parties by Kaiser Bauxite or its affiliates during the year shall not be less than 500,000 short tons of aluminium processed from Jamaican bauxite.

Quarterly payments of Production Levy to be made as if these conditions were satisfied, i.e. 7 per cent with adjustments to be made in the event that they are not satisfied.

(vi) In order to permit Kaiser's claim on tax credit allowable against United States Income Tax liabilities applicable to Kaiser's operations in Jamaica, a nominal profit per long dry tone disposed of by Kaiser Bauxite, and not utilized in the manufacture of alumina in Jamaica, is set as follows: a fixed amount of US$ 3.07 plus a variable amount initially set at US$1.92 to be indexed to the base price of aluminium ingot as of January 1st, 1977. Corporation tax payable to the Jamaican Government in US funds calculated on this nominal profit, will be credited against the Production Levy as set out in the previous paragraph. The royalty payable by Kaiser's is fixed at fifty Jamaican cents (J$0.50) per long dry ton payable in US dollars, if so requested.

(vii) A new partnership is to be established between Jamaica Bauxite Mining Ltd. (51 per cent) and the Kaiser Bauxite Company, which will conduct mining operations on behalf of Kaiser Bauxite. The partnership shall have an Executive Board consisting of eight members, four to be appointed by JBM and four by Kaiser Bauxite, Kaiser Bauxite will serve as Managing Partners in accordance with a Management Agreement between the partnership and Kaiser Bauxite.

(viii) Insofar as the Jamaica Bauxite Company is in effect a "sleeping partner" and the operations of the partnership will not differ from the previous operations of the Kaiser Company on Jamaica, Jamaica will receive 14.68 per cent on its paid up capital for the first 15 years of the agreement, and 10 per cent thereafter.

/(ix) Arrangements

(ix) Arrangements for settlement of disputes are similar to the provisions of the ALCOA Agreement. The Kaiser Co. will withdraw proceedings under ICSID from the date the agreement comes into effect.

(x) By a Mining Agreement between the partnership, (Kaiser Jamaica Bauxite Company) and the Kaiser Bauxite Company, the partnership will conduct mining operations for Kaiser in return for an annual mining charge per ton determined by dividing the partnership expenses by the aggregate number of tons loaded for shipment on behalf of Kaiser Bauxite in a calendar year.

(xi) The government is entitled to expand production of bauxite by the partnership provided the government raises all the funds necessary to finance acquisition of additional facilities. The government will take for its own use or sale all bauxite produced as a result of such expansion at a mining charge determined the same way as that paid by Kaiser Bauxite. If the government expands production of the partnership, the government will pay Kaiser Bauxite an annual charge for use of Kaiser Bauxite's share of the partnership's assets.

(xii) At the time of the negotiation of this agreement, the Jamaica Government had agreements with Mexico to build an alumina plant of approximately 600,000 ton capacity in Manchester. Kaiser agreed that, provided the project is economically feasible and competitive with other sources of alumina, Kaiser Bauxite would participate in the equity ownership of such a plant to the extent of approximately 200,000 tons of alumina, annually. (The Jamaica/Mexico arrangements aborted as explained above in part 1, e), (ii) above.)

/c) <u>The Jamaica</u>

c) The Jamaica Reynolds Agreement, March 31st, 1977 1/

The agreement between the Government of Jamaica and the Reynolds Metal Company is similar to the Agreement with Kaiser. The major points of difference are:

(i) Reynolds and Reynolds Jamaica Mines will sell to the Government of Jamaica all its land holdings and agricultural assets. These comprise 65,000 acres and were worth a net book value of approximately US$7,300,000 at December 31st, 1977. In addition, Reynolds will sell its agricultural inventories, net book value of approximately US$ 3 million. Reynolds agricultural assets include some large herds of cattle and other livestock. Terms of payment are similar to the Kaiser Agreement.

(ii) Reynolds Jamaica Mines will sell to the government a 51 per cent interest in its property, plant and equipment valued at approximately US$6,800,000 at December 31st, 1977. Reynolds will retain a 49 per cent interest. Terms of payment by the Government are similar to the Kaiser agreement.

(iii) Provisions for the payment of Income Tax are similar to the Kaiser Agreement, except insofar as the nominal profit per long dry ton of bauxite disposed of by Reynolds and not used in the manufacture of alumina in Jamaica is less than in the case of the Kaiser Company. Profits per long dry ton for Income Tax purposes are composed of a fixed amount of US3.00 plus a variable amount established at US$1.00 as of January 1st, 1977.

1/ Compiled from: Jamaica Reynolds 1977 Main Agreement (full text); Securities and Exchange Commission Form 10 K, Fiscal Year ended December 31st, 1977, Reynolds Metal Co.; IBA Quarterly Review March 31st, 1977.

/The variable

(iv) Production Levy provisions are similar to those applying to the Kaiser Company, with a similar entitlement of a reduction of one half of one per cent in the levy rate provided bauxite production is no less than 3 million tons by Reynolds and/or by the interests of Reynolds and Alpart are no less than 3 million tons per annum and sales of aluminium to third parties no less than 500,000 tons produced from Jamaica bauxite.

(v) The partnership between Jamaica Bauxite Mining (51 per cent) and Reynolds Jamaica Mines Ltd. (49 per cent) will be called Jamaica Reynolds Bauxite Partners. Arrangements are identical with the Kaiser Agreement, with the exception that Jamaica Bauxite Mines will receive only 12 per cent per annum on its investments for the use of its 51 per cent interest in the mining assets. Reynolds will manage the operations of the partnership for the first seven years, under a management contract and the Reynolds Jamaica Mines Ltd. will receive the entire output of bauxite by the partnership in return for a Mining Charge.

d) The Jamaica-ALCAN Agreement of September 25th, 1978 1/

The agreement between the Jamaica government and ALCAN Ltd. is similar to the agreement between Jamaica and ALCOA. Major points of differences are:

(i) The government will acquire all ALCAN's mineral lands at net book value for a sum of approximately US$7.5 million.

(ii) The government will acquire a 7 per cent interest in ALCAN's integrated Jamaican mining and refining operations at book value of US$4.4 million, payable in ten annual installments at 8½ per cent interest on the unpaid balances.

1/ Compiled from a News Summary, JBI Digest, October 1978 and the IBA Quarterly Review, September 1978.

/(iii) Both parties

(iii) Both parties will contribute their respective interests to a joint venture partnership to be called JAMALCAN whose annual rated capacity is 1,095,000 tons of alumina, with the Government's share being 76,650 tons. ALCAN will be the managing partner and JAMALCAN will be directed by a seven member Board on which ALCAN will have five directors and JMB will have two.

(iv) The Government will purchase a 7 per cent interest in ALCAN's farming enterprises (beef, dairy and citrus) at an undisclosed price. ALCAN will continue to manage the farming operations.

(v) The bauxite levy applicable to ALCAN will be fixed at 7.5 per cent until December 31st, 1983.

(vi) All other provisions are similar to the other agreements. ALCAN however, is unable to write off that portion of the Production Levy calculated to be equivalent to a corporation tax, because ALCAN is not a U.S. company and is thus not eligible for the advantages offered to U.S. Companies under the Western Hemisphere Trading Concessions, by the Government of the United States. For this reason, the Production Levy is more burdensome to ALCAN than it is to the U.S. Incorporated Companies.

e) Final comments on the ownership aspects of the agreements

None of the above agreements are as yet in effect, because the necessary enabling legislation has not as yet been enacted. However, insofar as the Government of Jamaica is in continual contact with the Companies concerning the administration of the bauxite levy and other matters, it can be inferred that a number of the provisions of the agreements, in particular those pertaining to Taxation and the Production Levy liabilities represent currently operational arrangements, except insofar as those might have been modified by ongoing new negotiations between the Jamaican Government and the Companies. A summary evaluation of the Agreements described above follows:

/(i) Under Jamaican

(i) Under Jamaican Law, bauxite deposits are vested in and controlled by the Jamaican Government, whether the land is privately owned or not, and mining is subject to the obtaining of government leases. This has always been so. However, the companies have in the past, acquired much more surface lands than they needed for access to bauxite deposits. The parcels of land presently belonging to the Companies are not only extensive in area, but are frequently scattered all over the island. The purchase by the government of some 195,000 acres of lands will enable to rationalize land use as a precondition for sound agricultural development

(ii) Although the Kaiser and Reynolds Agreements do not in any significant way affect operations of these two companies in Jamaica, because in both cases the partnership between Jamaica and the company will continue to produce and deliver bauxite to the TNCs in return for a mining charge, they are mutually advantageous to the Government and the Companies. They create a common interest between the partners in maintaining production levels of bauxite mining.

(iii) Jamaica's non-controlling interest of 51 per cent enables the Government to influence minor company decisions by virtue of the presence of government appointees on the Board of Directors; enables his cadres to become more familiar with the technological and management aspects of the mining operation and to monitor more closely day to day developments and, finally, responds to the assertion of national objective of gaining control over the industry.

(iv) The acquisition price of the written down book value of assets is relatively low and the negotiated government rates of return of 14.68 per cent (Kaiser) and 12 per cent (Reynolds) are in excess

/of the

of the cost of the borrowed capital at 8.5 per cent. The rising price of aluminium means that the actual value of the mining assets acquired, calculated on the basis of the discounted value of the future yields of bauxite, is considerably higher than the acquisition price.

(v) The arrangments offer security to Kaiser and Reynolds both of which are highly dependent on Jamaica as a source of bauxite for their U.S. refining and smelting operations.

(vi) In the case of the ALCOA and ALCAN agreements, Jamaica also has no control in the JAMALCO and JAMALCAN joint ventures. However, the government will benefit by virtue of possession of its own alumina (approximately 110,000 tonnes per annum), which will be sold to non-traditional markets as described above. Furthermore, the Government has options on expansion of alumina capacity under the terms of the ALCOA Agreement.

/ STATISTICAL ANNEX

STATISTICAL ANNEX

STATISTICAL ANNEX

Table 1

TOTAL CAPITAL INVESTMENT IN JAMAICA BY

THE BAUXITE/ALUMINA COMPANIES TO 1973

	Total Cap. Invest. in Jam. to 1969 (J$'000)**	Cap. Invest in Jam. 1970 (J$'000)+	Cap. Invest in Jam. 1971 (J$'000)+	Cap. Invest in Jam. 1972 (J$'000)+	Cap. Invest. in Jam. 1973 (J$'000)+	Total to 1973 (J$'000)
Bauxite Mining and Drying	96,781	2,025	1,091	1,709	7,313	108,919
Alumina Production	310,396	78,230	58,574	76,242	16,324	539,766
	407,177	80,255	59,665	77,951	23,637	648,685

Source: ** Obtained from the Companies

+ Annual Returns under Mining Regulation 54

Table 2

BAUXITE ALUMINA OPERATIONS IN JAMAICA

COMPANY	Ownership	Mine Site	Plant Site Date	Port	Rates annual capacity 1978 ('000 metric tonnes Alumina	Bauxite
1. JAMALCAN	ALCAN 93%	Russell Place	Started Nov. 1952 Kirkvine (Mandeville, Manchester)	Port Esquivel	562	2687
	JAMAICA GOVT. 7%	Schwallemburg	Sep. 1959 Ewarton	" "	562	
2. JAMALCO	ALCOA 94%	Breadnut Valley	Apr. 1972 HalseHall (Clarendon)	Rocky Point	550	1270
	JAMAICA GOVT 6%					
3. ALPART	ANACONDA 27%		Sep. 1970 Nain (St. Elizabeth)			
	REYNOLDS 36.5%	Essex Valley		Port Kaiser	1130	3117
	KAISER 36.5%					
4. KAISER BAUXITE	KAISER 49%	Water Valley	1967 Port Rhodes	Port Rhodes		4200
	JAMAICA GOVT. 51%					
5. REYNOLDS	REYNOLDS 49%	Lydford	Lydford	Reynolds Pier Ocho Rios		3100
	JAMAICA GOVT. 51%					
6. REVERE	REVERE COPPER & BRASS INCORP.	Magotty	Apr. 1971 Magotty	Rocky Point	(200)	(500)
				TOTAL (excluding Revere)	2800	14374

Source: Various companies reports.

Table 3

BAUXITE AND ALUMINA PRODUCTION, 1953 - 1978

Year	Total Bauxite Produced (Net Dry tons) M Tonnes	Bauxite Shipped (Net Dry Tons) M Tonnes	Alumina Shipped 000 Tonnes	Bauxite Converted into Alumina M Tonnes	Bauxite Processed to Alumina in Jamaica %
1953	0.93	1.07	29	.10	11
1954	2.08	1.76	108	.32	15
1955	2.69	2.22	186	.47	17
1956	3.19	2.62	216	.58	18
1957	4.67	3.70	442	.97	21
1958	5.81	4.88	379	.93	16
1959	5.21	4.26	405	.94	18
1960	5.84	4.21	676	1.62	28
1961	6.77	5.05	714	1.72	25
1962	7.62	6.08	637	1.53	20
1963	7.01	5.24	737	1.77	25
1964	7.94	6.06	780	1.87	24
1965	8.68	6.89	732	1.76	20
1966	9.07	7.14	803	1.92	21
1967	9.27	7.26	837	2.01	22
1968	8.53	6.31	922	2.21	26
1969	10.50	7.72	1,156	2.78	26
1970	12.00	7.70	1,716	4.31	36
1971	12.44	7.71	1,811	4.73	38
1972	12.54	7.16	2,135	5.38	43
1973	13.60	7.39	2,416	6.21	46
1974	15.33	8.00	2,805	7.33	48
1975	11.57	5.48	2,374	6.09	53
1976	10.20	6.20	1,600	4.00	39
1977	11.43	6.35	2,035	5.08	44
1978	11.73	6.44	2,150	5.29	45

Source: Ministry of Mining and Natural Resources

Table 4

RETURNED VALUE OF THE BAUXITE-ALUMINA INDUSTRY TO THE ECONOMY OF JAMAICA, - J$M

A. Payments to the Government

	1971	1972	1973	1974	1975	1976	1977	1978 [3]
Production Levy	-	-	-	161.5	133.8	113.6	166.9	169.6
Corporate Tax [1]	218	20.3	2o.7	-	-	-	-	-
Royalty	3.1	3.0	3.4	7.0	5.4	4.8	5.2	5.8
Total of Above	24.9	23.3	24.1	168.5	139.2	118.5	172.1	175.4
Other Taxes [2]	3.6	4.3	5.8	9.5	8.4	n/a	n/a	n/a
TOTAL	28.5	27.6	29.9	178.0	147.0	118.5	172.1	175.4
of which								
Levy+Royalty in US$	-	-	-	185.4	153.1	130.3	189.3	193.0

B. Local Non-Capital Expenditures

Wages & Salaries	28.6	32.5	48.9	49.1	55.6	62.5	70.0	58.1
Supplies & Mats.	n/a	16.3	30.8	29.2	39.0	20.1	30.9	55.9
Other Services	n/a	6.8	11.0	16.8	42.3	40.0	85.4	93.7
TOTAL	28.6	57.6	90.7	95.1	136.9	122.6	186.3	207.7

C. Total Returned Value to Jamaica

TOTAL : A + B [1]	57.1	85.2	120.5	273.1	284.9	253.7	358.4	383.1

Source: Jamaica Bauxite Institute;
Bank of Jamaica

1 After 1974, Corporate Taxes are included with the Levy

2 Land Tax, Customs, License, etc.

3 Computed at J$1.00 = US$1.10 (See Bank of Jamaica Annual Report, 1978)

Table 5

INDICATORS OF THE CONTRIBUTION OF THE BAUXITE-ALUMINA INDUSTRY TO THE ECONOMY OF JAMAICA

A. BASIC INDICATORS IN J$M

	1971	1972	1973	1974	1975	1976	1977	1978
1. GDP of Jamaica	1275.9	1434.1	1733.6	2265.4	2632.5	2717.6	2965.5	N/A
2. Contribution of bauxite/alumina to GDP	128.8	113.2	139.0	287.6	261.6	230.1	304.1	N/A
3. Total Export Earnings	274.8	292.6	347.7	653.1	740.6	575.8	666.9	676.5
4. Value of Exports of Bauxite/Alumina	179.0	188.3	227.3	481.4	481.4	389.4	489.2	493.5
5. Recurrent Government Revenue	244.4	280.7	343.3	421.9	509.0	520.4	522.1	N/A
6. Payment to Government by Bauxite/Alumina Industry	28.5	27.6	29.9	178.0	147.6	118.5	172.1	175.4
7. Returned Value from Bauxite/Alumina	57.7	85.2	120.5	273.1	284.9	253..7	358.4	383.4

B. BAUXITE/ALUMINA PRODUCTION

8. Bauxite Produced in M of long dry tons	12.3	12.7	12.4	15.1	11.4	10.2	11.3	11.6
9. Alumina shipped in '000 metric tons	1911	2135	2416	2805	2374	1600	2035	2150

SOURCE: Compiled Jamaican Sources

(Cont...)

(... Cont.) Table 5

INDICATORS OF THE CONTRIBUTION OF THE BAUXITE-ALUMINA INDUSTRY TO THE ECONOMY OF JAMAICA

C. PERCENTAGES

	1971	1972	1973	1974	1975	1976	1977	1978
10. Bauxite/Alumina Contribution to GDO (2 ÷ 1)	10.0	7.9	8.0	12.7	9.9	8.5	10.2	N/A
11. Bauxite/Alumina Contribution to Export Earnings (4 ÷ 3)	65.1	64.3	65.4	73.7	65.0	67.6	73.3	73.0
12. Bauxite/Alumina Contribution to Govt. Revenue (6 ÷ 5)	11.7	9.8	8.7	42.2	29.0	22.8	33.0	N /A
13. Returned Value of Bauxite/ Alumina as % of Bauxite/Alumina Export Earnings (7 ÷ 4)	31.9	45.2	53.0	56.7	59.2	65.1	73.3	77.6
14. Returned Value of Bauxite/ Alumina as % Total Export Earnings (7 ÷ 3)	20.7	29.1	34.0	41.2	38.5	44.0	53.7	56.6

D. CONTRIBUTION OF BAUXITE/ALUMINA INDUSTRY PER TON OF BAUXITE PRODUCED (in Jamaican Dollars)

15. Export proceeds (4)	14.65	14.83	28.04	31.89	42.24	38.18	43.29	42.54
16. Payments to Government (6)	2.32	2.17	2.41	11.79	12.95	11.62	15.23	15.10
17. All other local costs	2.33	4.54	7.31	6.30	12.00	12.00	16.59	17.90
18. Total Returned Value (7)	4.65	6.71	9.72	18.09	24.95	23.62	31.72	33.00

SOURCE: Compiled Jamaican Sources

Table 6

BIG 4's FIVE YEAR PERFORMANCE (Income & Revenues in US$ million)

	1974	1975	1976	1977	1978
	Record Performance				
ALCOA					
Net Income	$ 174.6	$ 64.8	$ 143.8	$ 495.2	$ 312.7
Revenues	$ 2,727.3	$ 2,305.9	$ 2,924.4	$ 3,416.4	$ 4,051.3
Income per C. Share	$ 5.19	$ 1.85	$ 4.14	$ 5.58	$ 6.90
Primary Aluminum Production (s.t.)	1,585 million	1,257 m	1,280 m	1,376 m	1,470 m
ALCAN					
Net Income	$ 169.0 m	$ 35.0 m	$ 44.0 m	$ 201.5 m	$ 289.4 m
Revenues	$ 2,427	$ 2,313	$ 2,671	$ 3,058	$ 3,738
I. per C. Share	$ 4.11	65¢	$ 1.14	$ 4.98	$ 7.15
Primary Aluminum Production (s.t.)	2,174 million	2,016 m	1,673 m	2,067 m	2,198 m
REYNOLDS					
Net Income	$ 114.2	$ 60.0	$ 75.0	$ 86.3	$ 117.8 m
Revenues	$ 2,048.9	$ 1,730.9	$ 2,132.1	$ 2,392.0	$ 2,829.3
I. per C. Share	$ 5.41	$ 3.29	$ 4.16	$ 4.61	$ 6.11
Primary Aluminum Production (s.t.)	1,201,800	621,500	983,400	1,001,300	1,059,900
KAISER					
Net Income	$ 111.0	$ 94.7	$ 44.5	$ 112.1 m	$ 145.5 m
Revenues	$ 1,735.5	$ 1,578.1	$ 1,851.9	$ 2,179.6	$ 2,466
I. per C. Share	$ 5.63	$ 4.78	$ 3.08	$ 2.77//5.53	$ 3.58
Primary Aluminum Production (s.t.)	908,212	752,720	851,582	930,382	1,001,161

Source: Jamaican Bauxite Institute Digest, May 1977.

Table 7

EROSION OF THE GAINS FROM THE BAUXITE/ALUMINA INDUSTRY DUE TO RISING IMPORT PRICES (1972=100) (1972-1978)

	1972	1973	1974	1975	1976	1977	1978
1. Value of Bauxite/ Alumina Exports J$M	188.3	227.3	481.4	481.4	389.4	489.2	493.
2. Payments to Govt. by Bauxite/Alumina Industry J$M	27.6	29.9	178.0	147.6	118.5	172.1	175.4
3. Returned value from Bauxite/Alumina J$M	85.2	120.5	273.1	284.9	253.7	358.4	83.
4. Import Price Index 1972=100	100.0	131.4	191.6	215.5	227.6	247.3	290.6
5. Value of Bauxite/ Alumina Exports in External Purchasing Power	188.3	173.0	251.2	223.5	171.1	197.8	169.8
6. Payments to Government by Bauxite/Alumina Industry in External Purchasing Power	27.6	22.8	92.9	68.2	52.0	69.6	60.4
7. Returned Value from Bauxite/Alumina Industry in External Purchasing Power	85.2	91.7	142.5	132.2	111.5	144.9	131.9

Source: See tables 4 and 5.

Table 8

BAUXITE/ALUMINA INDUSTRY

OPERATING RATES AND CAPACITY (million tonnes)

Year	Bauxite Production Capacity	Operating Rate %	Alumina Capacity	Operating Rate %
1973	15.54	87.5	2.94	81.6
1974	16.07	95.3	3.0	93.3
1975	16.12	71.8	3.0	80.0
1976	15.82	65.2	2.85	55.2
1977	14.37	79.5	2.80	72.7
1978	14.37	81.6	2.80	76.8

Source: Five Year Development Plan 1978 - 82
Jamaica Bauxite Institute

OPERATING RATES BY COMPANIES

(per cent)

COMPANY	1974	1975	1976	1977	1978
ALCAN	100	84	68	76	72
ALCOA	100	69	27	68	84
ALPART	83	74	59	77	75
KAISER	97	66	64	85	92
REYNOLDS	89	64	72	67	62
REVERIE	56	40	0	0	0

Source: Company capacity and production data.
Ministry of Mining and Natural Resources.
Jamaica Bauxite Institute

Table 9

WORLD BAUXITE PRODUCTION 1972 - 1977 ('000 tonnes)

	1972	1973	1974	1975	1976	1977
IBA COUNTRIES						
AUSTRALIA	14433	17596	20065	21008	24085	26074
DOMINICAN REPUBLIC	1036	1146	1477	910	529	722
GHANA	362	354	421	353	268	235
GUINEA	2600	3800	6433	7674	11316	10871
GUYANA	3668	3621	3168	3559	3134	3915
HAITI	783	743	641	522	635	588
INDONESIA	1276	1229	1270	993	940	1301
JAMAICA	12989	13490	15327	11571	10311	11433
SIERRA LEONE	694	693	692	716	651	745
SURINAM	7777	6686	6385	4929	4618	4951
YUGOSLAVIA	2197	2167	2370	2306	2033	2044
TOTAL IBA	47815	51525	58249	54540	58520	62879
% World	69.1%	70.8%	72.9%	71.0%	72.7%	73.6%

(Cont...)

(...Cont.) Table 9

WORLD BAUXITE PRODUCTION 1972 - 1977 ('000 tonnes)

	1972	1973	1974	1975	1976	1977
ALL OTHER COUNTRIES						
BRAZIL	765	849	900	969	998	1035
CHINA, P.R.(est)	550	600	700	990	990	1200
France	3402	2970	2923	2563	2663	2059
GREECE	2409	2748	2813	3006	2551	2984
HUNGARY	2356	2600	2751	2890	2918	2949
INDIA	1689	1286	1270	1274	1449	1512
MALAYSIA	1076	1143	948	704	660	616
ROMANIA	894	900	816	779	890	900
TURKEY	471	352	460	631	461	567
U.S.A.	1841	1909	1998	1801	1990	2013
U.S.S.R. (est.)	5800	5800	6000	6600	6700	6700
OTHERS	111	68	51	47	43	47
WORLD TOTAL	69179	72750	79879	76795	80381	85461

SOURCE: International Bauxite Association
World Metal Statistics

Table 10

PRODUCTION AND SHIPMENTS OF BAUXITE AND ALUMINA

BY THE COMPANIES, 1974 - 77 (000 tonnes)

COMPANY	1974		1975		1976		1977	
	BAUXITE	ALUMINA	BAUXITE	ALUMINA	BAUXITE	ALUMINA	BAUXITE	ALUMINA
ALCAN	2,703	1,126	2,317	997	1,823	759	2,021	860
ALCOA	1,921	532	1,457	405	819	157	1,120	400
ALPART	2,712	978	2,193	845	1,805	695	2,300	907
KAISER	4,081	-	2,707	-	3,272	-	3,567	-
REYNOLDS	3,306	-	2,379	-	2,674	-	2,500,	-
REVERE	457	162	325	136	-	-	-	-
TOTAL:	15,182	2,798	11,381	2,374	10,394	1,613	11,508,000	2,167

Source: Jamaica Bauxite Institute Digest, March 1978.

Table 11

ALUMINA EXPORTS 1973 - 1977 in METRIC TONNES

							Percent of Total					
	1973	1974	1975	1976	1977	1978	1973	1974	1975	1976	1977	1978
U.S.A.	792	952	682	532	693	593	32.8	33.9	28.7	32.8	34.0	27.9
Britain	341	442	489	263	358	545	14.1	15.8	20.6	16.2	17.6	25.6
Norway	575	614	533	435	563	314	23.8	22.4	22.4	26.8	27.7	14.8
Canada	201	178	96	24	221	279	8.3	6.4	4.0	1.5	10.9	13.1
Venezuela	27	48	15	115	36	88	1.1	1.7	0.6	7.1	1.8	4.1
Ghana	122	119	125	14	75	87	5.0	4.3	5.3	0.9	3.7	4.1
Spain	51	89	131	35	-	71	2.1	3.2	5.5	2.2	-	3.3
U.S.S.R.	79	43	146	-	-	62	3.3	5.1	6.1	-	-	2.9
Sweden	120	105	92	152	82	56	5.0	3.7	3.9	9.4	4.0	2.6
Holland	-	17	-	22	8	25	-	0.6	-	1.4	0.4	1.2
Other	108	98	66	31	-	3	4.5	3.5	2.8	1.9	-	0.1
TOTAL	2,416	2,805	2,375	1,623	2,036	2,123	100	100	100	100	100	100

Source: See table 10.