THE IMPACT OF FOREIGN INVESTMENT ON THE DEVELOPMENT OF THE LIBERIAN ECONOMY: A STUDY OF THE IRON ORE MINING INDUSTRY

by

R. Mlendough
(Liberia)

A research paper submitted in partial fulfilment of
the requirements for obtaining the Degree of Master
of Arts in Development Studies.

October 1985

CONTENTS

INTRODUCTION

OVERALL OBJECTIVE OF THE STUDY

The purpose of this study rests on the determination of whether the rationale for Liberia's heavy dependence on foreign investment, as its main economic strategy, manifested in the Open Door Policy, particularly within the iron ore mining sector which was envisaged would promote and achieve economic growth and development throughout the entire country, has had a positive effect. If this has not been the case, this study is intended to investigate why the benefits accruing from foreign investments in iron ore mining have not brought about increased and sustained development as was expected; whether the surplus generated from iron ore mining has benefited the foreign investors more than the Liberian people; what factors might have influenced the unequal distribution of benefits from iron ore mining and how Liberia could take advantage of increasing its benefits from foreign investment, especially in iron ore mining.

This study will be written within the analytical framework suggested by F.P.M. van der Kraaij in his book "The Open Door Policy of Liberia: An Economic History of Modern Liberia" in which he critically analyzed the main cause of Liberia's economic and financial performance during the past decades, the "Open Door Policy" and investigated the diffusive aspects of the fruits of the Open Door Policy as well as the examination of foreign investors' participation in and contribution to Liberia's economic development.[1)]

Central to this analysis is the concept of surplus transfer and the metropolis-satellite relations model developed by Andre Gunder Frank of the dependency school of thought characterized by the rejection of the traditional view that underdevelopement was an original state from which every society had to begin its drive to become developed. Instead, underdevelopment resulted from a particular historical process.[2)]

Analysis of the impact of foreign investments, particularly in the iron ore mining sector of the Liberian economy will be undertaken with the view to establishing the basis of the study. In addition to the overall objectives which this study intends to achieve, the first chapter will focus on the structure of the Liberian economy and the historical developments of foreign investments in iron ore mining. The second chapter will discuss the organisational structure and features of the mining companies to include ownership, management and control as well as mining concession agreements. Chapter three will reflect the economic impact of iron ore mining on the development of Liberia and will consider issues relating to iron ore world market conditions, price, output, and contribution to Liberia's Gross Domestic Product (1973-1983); contribution to Liberia's export and Government's tax revenues; indicate effects of iron ore exports on foreign exchange capacity and balance of trade and linkage development of iron ore mining. The fourth chapter will feature the social impact of iron ore mining. Chapter five will provide policy implications of the study with some recommendations and finally the conclusions.

CHAPTER ONE

1.1 STRUCTURE OF THE LIBERIAN ECONOMY

The Republic of Liberia, a tiny country (with only four countries being smaller than Liberia in the whole of Africa)[3] is located on the south west coast of Africa and is boarded in the north by the Revolutionary Republic of Guinea, in the east by the Republic of Ivory Coast, in the West by Sierra Leone and in the south by the Atlantic Ocean. Liberia covers an area of approximately between 37,000 and 43,000 square miles[4] with a population of a little over 2.0 million people and density per square mile which has increased from 26.6 in 1962 to 53.9 in 1982.[5] Mainwhile, the 1974 Census of the Liberian Population revealed a growth rate of 3.3 percent per annum.[6] The Gross National Product (GNP) of Liberia was estimated a $ 1,010 million in 1982 and per capita income $ 521 in the same year.[7]

Liberia became an independent country on July 26, 1847, only 25 years after the first group of ex-slaves and free men of colour arrived there from the U.S.A. and later from the West Indies. The only independent country in Africa at that time, Liberia was never colonized by any European country or a foreign power despite efforts made by the Liberian government on two occasions in 1893 and 1908 to persuade the U.S. government to establish a protectorate over Liberia since the soverignty of the country was being threatened by European imperialist countries (Britain and France), considerably reducing by forceful means the territory which belonged to Liberia during the last quarter of the nineteenth century.[8] Liberia which is sparcely populated is blessed with fertile soil, lots of rainfall and is endowed with vast reserves of mineral deposits including iron ore and other natural resources. The economic development of Liberia is not likely to be inhibited by relative scarcities of land or other natural resources for at least the next half-century.[9]

The first Concession Agreement in Liberia was signed between the Liberian Government and Firestone Rubber and Tyre Company in 1926, which allowed the U.S. based company to establish the largest rubber plantation in the world.[10)] The Government permitted the entrance of Firestone into the country because Liberia needed protection from some foreign power against the French and British who were claiming parts of the Liberian territory in the north east and the west.[11)] But the cultivation of rubber did not lead to any immediate upswing in the economy. With the effects of the great depression in 1929 and the drop in rubber prices, the Liberian economy did not recover until the beginning of the second world war and the Korea-boom that the rubber industry began to accelerate causing an upswing in the economy as well.[12)]

One major reason that made the Liberian Government to begin to attract foreign capital was that the mobilisation of private domestic savings had never been encouraged nor promoted by the development of appropriate indigenous financial institutions, as a result, by 1943 there was only one bank in the whole country, the Bank of Monrovia, which was a subsidiary of Firestone. Therefore, since Government expenditure had nearly always been greater than Government revenues and public domestic savings, government had no other alternative but to borrow from foreign financiers. The Open Door Policy which began under the Administration of President Barclay became an official Government economic policy after President W.V.S. Tubman assumed office in 1944.[13)]

As the result of the Open Door Policy, after 1944, Liberia experienced an unprecedented economic growth, mainly by the influx of foreign investments amounting to about $ 1 billion. Exports increased from $ 9 million to $ 537 million in 1979, while government revenues increased from $ 1.5 million to $ 200 million during the same period.

The monetary economic employment grew from 30,000 in 1944 to about 150,000 in 1979. There were no public corporations in 1944 but in 1979, there were about 20 public corporations employing about 9,500 persons. Government ministries grew from only seven to eighteen in 1979. School population which was only 12,000 in 1944 increased to more than 235,000 in 1978.[14)]

The size of the Liberian economy is relatively small but very open. It comprises a modern economic sector as well as a traditional agricultural sector. The Liberian economy is dominated by the production of rubber and iron ore for exports. These enclaves are mainly owned by foreign interests. They use modern technology and enjoy a high level of productivity. Nonetheless, they are the main source of export earnings, wage employment and a sizable contribution to government revenues. Traditional agriculture has minimal interaction with the monetized economy and supports as much as 70 percent of the entire population. The modern sectors of the economy generate most of the domestic income including concession activities which directly account for almost one-half of Gross Domestic Product (GDP) of the modern economy. However, iron ore mining is by far the largest single activity in this sector, accounting for three-quarters of value-added by concessions. Since 1965 production of iron ore increased from 15.5 million metric tons to 24.5 million tons in 1974 making Liberia the fifth largest exporter of iron ore in the World.[15)]

From 1964 to 1974 Liberia enjoyed a relatively high rate of economic growth measured by its Gross Domestic Product estimates averaging about 5.7 percent in real terms and 8.7 percent in current prices. Value-added by concession activities as well as manufacturing industry and commercial agriculture (excluding rubber production by foreign concessions) also grew much faster than average. Output of the traditional economy was estimated to have grown significantly faster than the rural population, which resulted from increased labor input, expansion of cultivated area, and shifting in the crop mixture towards higher-value marketable crops.[16] During the period of the First Development Plan (1976-1980), the Liberian economy virtually stagnated. GDP grew at a very low annual rate of 1.7 percent, declined by 4.7 percent in 1980, and according to preliminary estimates, further declined by 5 percent in 1981. This was mainly due to the world wide recession directly affecting the demand for Liberia's export commodities, particularly iron ore and rubber which were drastically reduced while the volume of some export commodities fell, still others remained stagnant. Liberia's terms of trade deteriorated by 20 percent in the First Plan Period. At the launching of the First Plan in 1976, the iron ore mining industry had reached its peak when production and exports attained the level of 25 million tons in 1974. However, by 1979, production had decreased to about 18 million tons.[17]

According to preliminary estimates, GDP at constant 1971 factor cost of the monetary economy declined by 3.7 percent from $ 333.9 million in 1982 to $ 321.6 million in 1983 because of the continuation of the recessionary trend since 1980 which has resulted in a decline in GDP at an average annual rate of 4.4 percent. The fall in world demand for Liberia's major exports and the unprecedented flight of capital after the 1980 coup have been the main causes of the poor performance of the Liberian economy.[18]

Liberia uses the US dollars as its national currency whose par value is equal to the Liberian dollar. Liberia has a national Bank which does not carry out traditional central banking activities. However, there are about seven commercial banks with the majority being foreign owned. The National Bank of Liberia issues Liberian coins with L$ 5 being the highest denomination but because of the absence of exchange control regulations, the overall money supply in the economy is partially known. The recorded money supply in 1983 was estimated at $ 75.3 million.[19]

The monetary economy experienced a decline in the supply and use of total resources (GDP plus imports of goods and NFS) in real and nominal terms. In real terms, preliminary estimates indicate a decline of 4.2 percent from $ 543.0 million in 1982 to $ 520 million in 1983. In nominal terms, from $ 1,376.9 million in 1982 to $ 1,292.7 million in 1983, a decline of 6.1 percent. The total use of available resources show a high dependence of the economy on exports, with 39.7 percent of total available resources used for export of goods and non-factor services in real terms in 1983. The share of exports in the total use of resources stagnated, maintaining the same 39.7 percent share in both 1982 and in 1983. Total exports declined from $ 201.2 million in 1982 to $ 196.6 million in 1983, measuring a 2.3 percent decline. Consumption expenditure experienced a further decline in real terms from $ 211.8 million in 1982 to $ 199.4 million in 1983, measuring a decline of 5.6 percent. Government consumption dropped from $ 84.6 million in 1982 to $ 69.7 million in 1983 accounting for 17.6 percent decline. Private consumption increased by 2.0 percent from $ 127.2 million in 1982 to $ 129.7 million in 1983. Fixed investments declined by 6.8 percent from $ 96.4 million in 1982 to $ 89.8 million, mainly caused by a 7.1 percent fall in the value of investment goods imported. However, in nominal terms, fixed investments declined by 2.9 percent from $ 194.8 million in 1982 to $ 189.2 million in 1983. In real terms, net indirect taxes declined from $ 46.5 million in 1982 to $ 42.0 million in 1983, a decline of 9.7 percent, representing the first decline in net indirect taxes since 1979. Net indirect taxes as a share of GDP at current prices totalled 15.2 percent in 1982 compared to 14.5 in 1983.[20)]

Liberia being a member of the United Nations, the ACP Group of States, the Mano River Union as well as the Economic Community of West African States supports bilateral, multilateral as well as regional economic integration.

1.2 HISTORICAL BACKGROUND OF FOREIGN INVESTMENT IN IRON ORE MINING

The first indication of Liberia's rich iron ore deposits came at the beginning of the twentieth century when ships passing along the norhtern coast of Liberia reported the erratic behaviour of their magnetic compasses.[21)] In 1933, the Liberia President during that period, Edwin J. Barclay granted the Dutch "Holland Syndicate", whose major financier was Wm.H. Muller and Company, the sole prospection rights in Liberia and an option of 50,000 acres in the Western part of the country of locate gold and diamond deposits. It was however in the search for these minerals when a Dutch geologist of the Holland Syndicate, H. Terpstra found the high-grade iron ore reserves of Bomi Hills in 1934 which was estimated to contain iron of more than 65 percent.[22)] Unlike the Holland Syndicate (Wm.H. Muller and Co.) that failed in obtaining a concession agreement from the Liberian Government mainly because both parties could not concur on the amount of royalty and tax payments, another Dutch Company, Noord Europeesche Erts en Pyriet Maatschappij (N.E.E.P.), was successful to obtain a mining concession from the Liberian Government in August 1937. It was given the right to prospect and develop the Bomi Hills iron ore deposits and to construct port facilities at its own expense either in Monrovia or at Cape Mount.[23)] However, within a year, there were accusations made in the Liberian Legislature that Nazi capital was behind the Dutch venture for the development of the Bomi Hills mines,[24)] the Liberian Government therefore quickly cancelled the concession agreement under strong pressure from the U.S. State Department.[25)]

Negotiations for the construction of a port in Monrovia was concluded by the Liberian President, Edwin J. Barclay and the U.S. Government and an Agreement was signed in December, 1943 after the arrival in Liberia of a U.S.

geological mission to undertake a survey of Liberia's iron ore reserves.[26] With the port agreement, the U.S. Government had finally realized obtaining a naval base in West Africa as well as hope for an important source of supply of iron ore,[27] on the one hand, and on the other hand, funds for the construction of the port facility was borrowed from the United States by the Liberian Government in the amount of $ 19 million,[28] and with the construction of the port facility a major obstacle to the development of Bomi Hills deposits was eliminated.[29]

In January 1944, the U.S. geological mission consisting of three geologists accompanied by Arthur Sherman, then Director of the Liberian Bureau of Mines, examined the Bomi Hills deposits thereafter confirming the economic feasibility of exploiting the deposits in contradiction to an earlier report by an American Steel Corporation. In 1945 a mining Concession Agreement granting exploitation rights to the Bomi Hills deposits was concluded between the Liberian Government (shortly after President W.V.S. Tubman assumed office) and Col. Lansdell Christie of the United States.[30] Since Christie lacked the capital and expertise to develop the Bomi Hills mines, he contacted Wm.H. Muller and company, who accepted his offer to partipate in the project which enabled Christie to form the Liberian Mining Company.[31] Because of the Dutch Government's exchange restrictions after the war, substantial Dutch investment was prevented. However, in 1948 LMC and Wm.H. Muller and Co. signed an Agreement making Wm.H. Muller & Co. the exclusive sales agent for all other countries except the United States. This made Christie to recruit mainly Dutchmen to undertake technical and administrative positions in LMC which led to the first General Manager, J. van de Velde, being a Dutch.[32]

Estimated ore reserves[33] at Bomi Hills was proved to be about 200 million tons, consisting of 50 million tons of high-grade lump ore (66% Fe) and 150 million tons of milling-grade ore (43% Fe). From the signing of the Concession Agreement in 1945 until the production of iron ore commenced in 1951,[34] Christie had mobilized the necessary capital and basic infrastructural facilities conducive for shipment of the high-grade or from Bomi Hills.[35]

The LAMCO iron ore mining project dates back as far as 1953[36] as the result of a mining concession agreement signed on September 9th of the same year on behalf of the Government of the Republic of Liberia by William E. Dennis, then Secretary of Treasury and the President of the "United African-American Corporation" (UAAC), a U.S. Corporation, Mr. Lee Edgar Detwiler after a U.S. sponsored photogrammetric and magnetometer survey in 1952 and 1953 which revealed substantial iron ore deposits in the Putu Range area in Liberia.[37] In 1954, the name of the firm was changed to the International African-American Corporation; 1955 a supplementary agreement was signed and in 1956 the Liberian Legislature passed an Act which legally approved the original agreement and its supplement and in the same year, some changes were made when the entrance of Swedish interests made them partners in the firm which was thereafter called the Liberian American Swedish Minerals Company (LAMCO).[38] The Liberian President and Legislature approved these amendments in 1958 along with a more specific description of the concession area, explicitly including, among others, the recent discovered iron ore deposits of the Nimba Mountains and the Bassa Hills[39] but in 1960 a major modification occured when Bethlehem Steel Corporation acquired a 25 percent interest in the concession with LAMCO retaining the remaining 75 percent interest which constituted a formal Joint Venture Agreement between LAMCO on the one hand and Bethlehem on the other, dated April 28, 1960 thereby necessitating a new mining concession agreement which was entered into between the two parties and the Government of Liberia on the same date.[40]

Original exploration of the Mano River deposits was conducted by the Liberian Mining Company under the terms of its agreements of 1945 and 1952.[41] A "Statement of Understanding" between the Liberian Government and LMC was approved in 1957 waiving LMC's rights to exploit the Mano River deposits in return for a 15% equity in a new corporation[42] and a concession agreement was concluded between the Liberian Government and the National Iron Ore Company (NIOC) in March 1958 granting NIOC the exclusive exploration and exploitation rights on a site about 50,000 acres in the Mano River area, approximately 50 miles north west of Bomi Hills, in the extreme western part of Liberia.[43] The NIOC was formed as a partnership arrangement between the Liberian Government, LMC and private investors.[44] The proven reserves of the Mano River deposits were estimated at about 65 million tons and of direct-shipping grade with about 64 percent iron content.[45] The NIOC Mine commenced production in 1962.[46]

"Gewerkschaft Exploration" from Dusseldorf, West Germany, a subsidiary of Barbara Erzbergbau, A.G. which served as a consortium of several German steel Manufacturing firms in 1957, contacted the Liberian Government expressing interest in taking advantage of investment opportunities in Liberia's large iron ore reserves.[47] German interests in the Bong Range early in 1958 conflicted with LAMCO's desire to include this area as part of their concession area. However, the Liberian Government posponed the formal acceptance of the claim to this area by LAMCO and entered into negotiations with Gewerkschaft Exploration und Berghau GmbH (DELIMCO) which led to the signing of a concession Agreement on September 16, 1958, approved three months later by the Liberian Ligislature.[48] In 1961 the Bong Mining Company was formed as an operating company with Italian and German steel Companies as shareholders. On December 16, 1974, DELIMCO was merged with Bong Mining Company and a revised Concession Agreement with the Bong Mining Company and the Liberian Government was concluded.

CHAPTER TWO

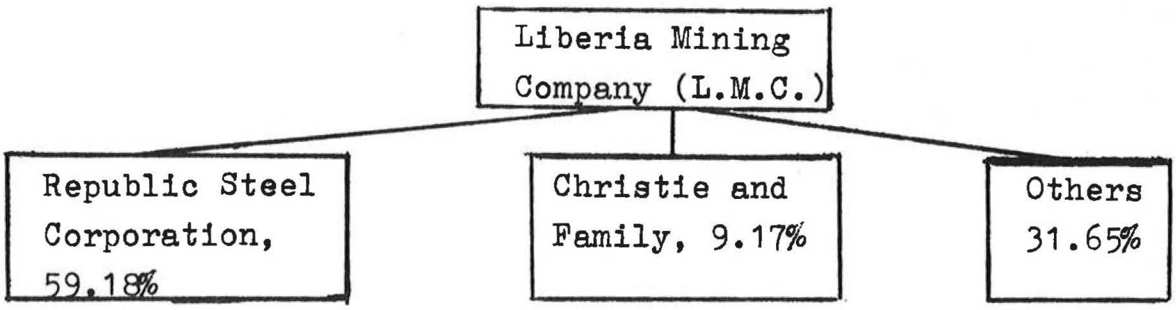
ORGANISATIONAL STRUCTURE AND FEATURES OF THE MINING COMPANIES

2.1 OWNERSHIP, MANAGEMENT AND CONTROL

Equity capital for the Liberia Mining Company was contributed by Col. Lansdell Christie who headed a group of American investors to Liberia and by the Republic Steel Corporation of the U.S.A. which became the majority stockholder of the company. After the L.M.C. mine began production in 1951, the original concession agreement was renegotiated and in March 1952 a collateral agreement was approved, giving the Government of Liberia the right to have two representatives on the Board of Directors and a new tax of 25 percent of net profits to Government for 1955-1959, 35% for 1960-1969 and 50% thereafter.[1] Contribution from other private investors as well provided the equity capital of $ 4.6 million[2] and about $ 5 million loan capital for the opening of the Bomi Hills mine. (see chart 1 below).

CHART 1

L.M.C. OWNERSHIP STRUCTURE



Source: Concession Secretariat, Ministry of Finance, Monrovia, Liberia.

The Liberia Mining Company paid sales commissions to Firma Wm. H. Muller and Co. N.V. for sales of iron ore to all countries except the U.S., and paid the Republic Steel Co. a majority share holder in L.M.C. for sales of iron ore to the U.S.[3] According to Jecker Carlsson, all mining companies in Liberia had transferred the responsibility for operating the mines to specially created management which were very closely affiliated to the owners of the mining companies and they received management fees and/or selling commissions which were treated as expenses in their financial statements, thereby tremendously reducing the distributed and taxable profits and consequently, the Republic of Liberia's share.[4] Mainwhile, on one hand, the mining companies should be able to provide employment opportunities for Liberians sufficiently to generate an effect on the other economic sectors by increasing demand from wage payments. Instead of this realisation, a large portion of the wage outlays received by expatriates leav the county either as payments for imported manufactured goods which Liberia lacks the capacity to produce and/or are transferred to bank accounts abroad. Local mine workers are among the better paid groups in Liberia, but as Jerker Carlsson puts it, their wages are not high enough to generate any substancial demand for goods other than what is needed for sheer survival,[5] considering the fact that the supervisory and managerial positions are largely occupied by expatriates and non-Liberian Africans.[6] It has been discovered in L.M.C.'s financial statements that W.H. Muller and Company was also paid for iron ore sales to Republic Steel which owned 50% of L.M.C.'s shares.[7]

In an effort to bring L.M.C. in line with other foreign investors with respect to Government's policy of equal sharing of profits between all foreign investors and the Liberian Government, an Amendatory Tax Agreement was reached in 1965 instead of January 1, 1970 as was agreed upon in the

1952 collateral agreement. In order for this arrangement to havebecome effective, LMC contended Government gives up its right to receive any other payments from L.M.C. Hence, L.M.C. only paid the Government income taxes and exploration and surface taxes while the payment of royalties was discontinued effective January 1, 1965 after Government promised never again to request for an amendment to the concession agreement as well as the collateral agreement of 1952.[8)]

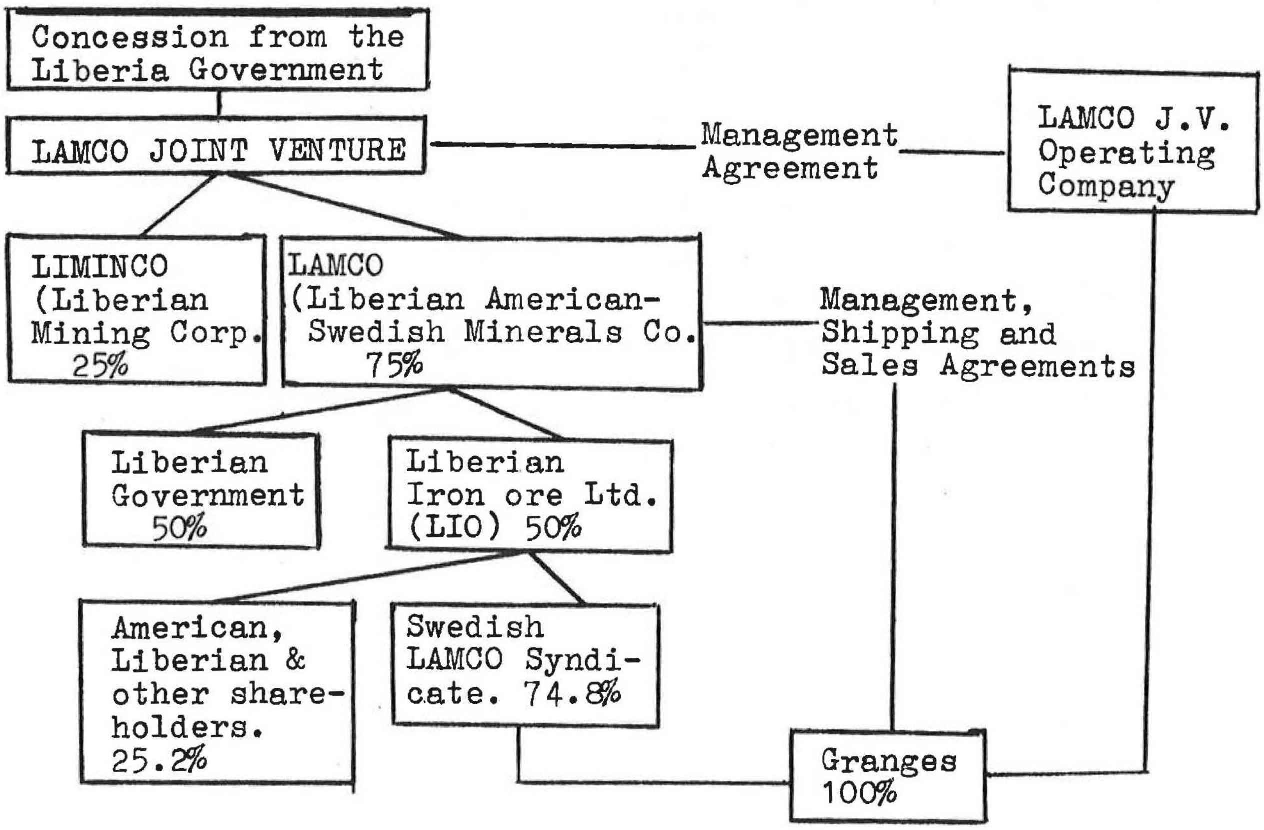
Under the sales agreement signed in 1949 and revised by the collateral agreement of 1952, to which the Liberian Government had given its approval between L.M.C. and Republic Steel, a maximum quantity of 450,000 tons per annum of lump ore containing 65% or more iron in its natural state for open hearth use was allowed to be purchased by Republic Steel at reduced prices. This agreement permitted Republic Steel to purchase L.M.C.'s iron ore at a price equal to 50% of the average annual selling price of iron ore to other purchasers, thereby saving up to about $ 29.5 million from 1955 to 1968. During the period 1955 to 1963, Republic Steel paid L.M.C. inaccurately computed prices further reducing already undervalued sales proceeds by $ 530,000. In view of the gradual depletion of the High Fe-content of the rich main ore body of the Bomi Hills mines, L.M.C. in 1962 made new investments by constructing a benefication plant which drastically changed its mining operations, resulting in the crushing of the portion of lump ore for open hearth, thereby reducing production of lump ore for open hearth and increasing the production of blast ore. With the market value of blast ore compared unfavorably with that of lump ore for open hearth use, L.M.C. and Republic Steel had to enter a new sales agreement with the approval of the Liberian Government, since their previous sales agreement was related to the sales of lump ore instead of blast ore. However, L.M.C. and Republic Steel unilaterally made a new sales arrangement with respect to the blast ore disregarding the Liberian Government and in contravention to the 1952 collateral agreement. But according to F.P.M. van der Kraaij, "to avoid misunderstanding, it should be observed that the new arrangement did not work against the Republic of Liberia more than the 1952 collateral agreement had done."[9)]

It had been discovered by Government independent auditors, Main Lafrentz and Company that L.M.C.'s accounting practices were not in conformity with generally accepted accounting principles. Although the 1952 collateral agreement allowed for the deductions of reserves to be used for expansion of facilities, the deductions for reserves were carried out but were not adjusted when the investments were depreciated, thereby deducting the same investment costs twice, first as an appropriation to reserves, and second as depreciation. On the other hand, Government's concurrence with this provision in the collateral agreement, voluntarily lowered its return in the short-run for a considerable increase in profits in the future, but LMC profits did not increase in the future as the Government had expected. L.M.C. continued its mal-management practices. During the period 1955-1968, L.M.C. made a total payment to its shareholders in the amount of $ 107,649,849.25, an amount equal to 24 times greater than the $ 4,520,475.09 total reserves withheld from the Liberian Government's participation. In addition, L.M.C. was paid an amount of $ 384,009 by N.I.O.C. for consultancy services, which was deducted from its gross profits.[10)] The Liberia Mining Company was owned, managed and controlled by foreign multinationals from its inception until it terminated operations on the Bomi Hills Mines in 1977 which later became Bomi Holes.

The Liberian Government and the Liberian Iron Ore Limited are equal partners in the Liberian American-Swedish Minerals Company (L.A.M.C.O.). LAMCO on the other hand which has 75% equity in the LAMCO Joint Venture iron ore project is a participant with the Liberian Mining Corporation (LIMICO), a wholly owned company of the Liberian Government which has 25% share in the project. LAMCO is a subsidiary of Granges International Mining which is in turn a subsidiary of a group of Multinational Companies, called Granges AB Group, and acts as Managing Agent for and on behalf of the Joint Venturers and as Sales Agent for LAMCO.[11] (see chart 2 below)

CHART 2

LAMCO JOINT VENTURE OWNERSHIP STRUCTURE



Source: LIO Annual Report, 1984, p. 2

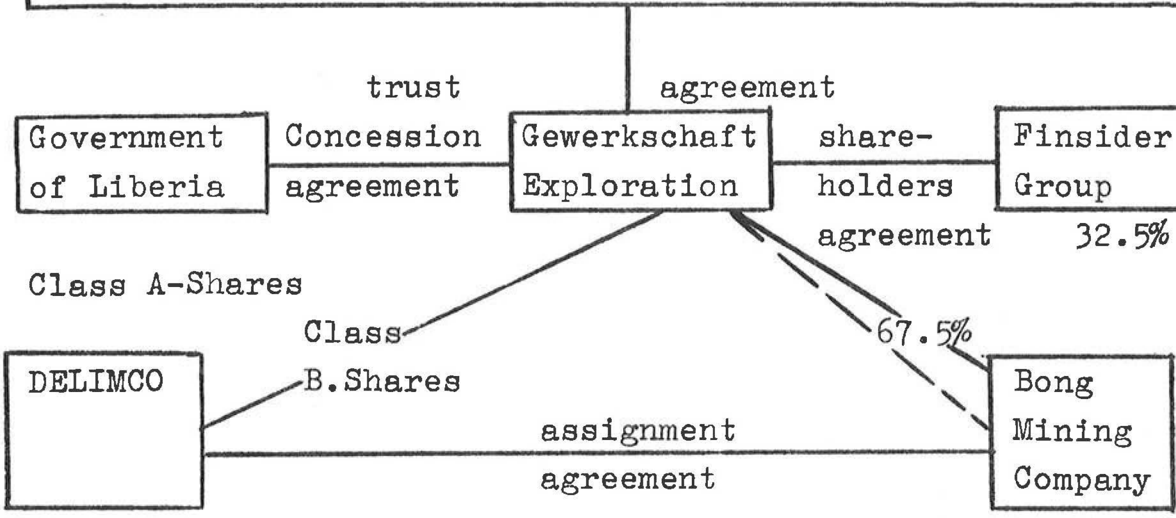
The Liberian Government's 50% ownership comprises 1,000,000 shares of Class A stock whose par value is equal to $ 1.00 each for which no cash payment was made. However, the 50% ownership gives the Government the right to appoint five members of the Board of Directors of LAMCO, while the other 50% ownership held by the Liberian Iron ore Limited (LIO) comprises 1,000,000 shares of Class B Stock with par value equal to $ 1.00 each which entitles LIO to appoint six members of LAMCO's Board of Directors. The Government of Liberia agreed to share the net profits of LAMCO, equally with LIO and to forfelt all existing and future taxes, fees, or charges including customs duties, royalties, corporate income taxes, withholding taxes, etc., which LAMCO, its Managers, Creditors or Contractors normally should pay into Governments revenue in view of the profit-sharing arrangement.[12] At LAMCO, as in the other mining companies in Liberia, the important technical and managerial positions are occupied by expatriates. A large number of Liberians fill only the unskilled jobs while most of the more skilled manual jobs are filled by Africans from Guinea, Senegal, and Sierra Leone. However, LAMCO has hired a larger proportion of Liberian personnel for staff jobs than the other iron ore mining companies.[13]

The Bong Mining Company (BMC) which was formed with the purpose of constructing and operating the Bong range came into being as the result of efforts made by major steel companies in the Federal Republic of Germany and other parts of Europe to ensure their procurement of the most important raw material for steel making, iron ore, on a long-term supply basis as well as to participate in the development and operation of the iron ore project.[14] Gewerkschaft Exploration, a German company was given sole rights to exploit the Bonge range by the Liberian Government. The company is wholly owned by Barbera Erzbergbau G.m.B.H. which is in turned owned by four German steel producers, namely, August Thyssen Hutte A.G., 50%, Hoesch H.G. Huttenwerke, 43%, Rheinstahl Huttenwerke A.G., 8% and Friedrich Krupp Huttenwerke, 8%. The Gewerkschaft Exploration has 50% equity in the German-Liberian Mining Company (DELIMCO) and the Liberian Government the other 50%. This entitles the Government to appoint five members of the Board of Directors of DELIMCO while Gewerkschaft Exploration appoints six members. DELIMCO was responsible for administration and representation to the Liberian Government. Gewerkschaft Exploration holds 2/3 of the shares in the Bong Mining Company. Finsider, the largest group of Italian steel producers joined the Bong Mining Company with a 1/3 ownership. Gewerkschaft Exploration appoints seven members to the Board of Directors of the Bong Mining Company, Finsider three and Kreditanstalt fur Wiederaufbau one. Through a special assignment agreement, DELIMCO gave up the exploitation rights of the concession to the Bong Mining Company. The BMC also concluded a consulting agreement with Gewerkschaft Exploration. Konsortium Liberia, on the other hand, was formed as a result of a trust agreement in which the German steel companies had a 100% ownership so as to show ownership percentage of the individual steel companies since it was disadvantageous to the German steel companies, for tax purposes in Germany to show their investments in Liberia first being split with the Liberian Government and then with Finsider.[15)] (see Chart 3 on the next page)

CHART 3

BONG MINING COMPANY - OWNERSHIP STRUCTURE

Konsortium-Liberia	Share in Konsortium	Share in B.M.C.
August Thyssen Hutte AG, Duisburg-Hamburg	55.5	37.5
Dortmund-Horder Huttenunion AG/ Hoesch AG Dortmund	23.8	16.1
Friedrich Krupp Huttenwerke AG, Bochum	12.7	8.6
Rheinische Stahlwerke, Essen	8.0	5.3



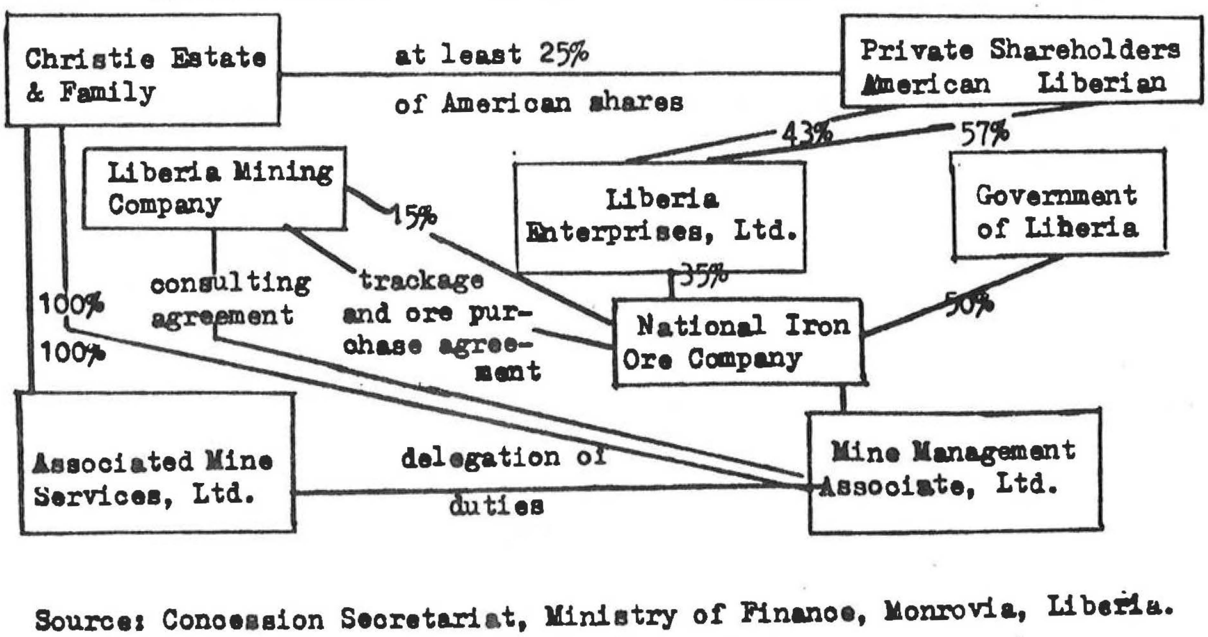
Comments: The Finsider Group - Societa Finanziara Siderurgia Finsider, Rome, and Finsider International, Luxembourg, holds 7.5% respectively 25% of the group's shares.

Source: Concession Secretariat, Ministry of Finance, Monrovia, Liberia.

The National Iron Ore Company being a Joint Venture project between the Liberian Government and foreign investors in which Government holds 50% equity* and private interests the remaining 50% differs from the features of other mining companies owenership structure since the Liberian Government contributed both the mineral resources as well as part of the capital and NIOC emerged into a partnership between the Liberian Government, LMC and private investors. The Christie Estate and Republic steel dominate NIOC since Republic steel excercises strong influence through its majority ownership of LMC while Christie on the other hand dominated the Liberia Enterprises Ltd., which held 35% equity in NIOC and also excercised a strong influence in NIOC through the Mine Management Associates Ltd., (MMA), a wholly (100%) owned subsidiary of Liberia Enterprises, Ltd., which received 3% of gross sales proceeds as a fee, tax free, irrespective of the years' profits as well as the Associated Mine Services (AMS) another wholly (100%) owned subsidiary of Liberia Enterprises, Ltd., responsible for purchases of equipment, supplies and contracting with respect to NIOC's mine.[16] (see Chart 4)

Chart 4

NATIONAL IRON ORE COMPANY - OWNERSHIP STRUCTURE



Source: Concession Secretariat, Ministry of Finance, Monrovia, Liberia.

* At present government's equity share is more than 50%.

2.2 MINING INVESTMENT FINANCING

The financing of mining projects in Liberia does not differ from that of most Third World countries which do not have the ability to mobilize domestic funds or lack the necessary organisational capacities to provide financing of these projects from domestic sources.

All of the mining companies which commenced production of iron ore in Liberia (LMC, LAMCO, BMC & NIOC) were financed through equity investment and the generation of cash flow from ongoing production as well as from foreign loan capital. In the case of LMC, the initial investmentcapital required for operating the mine amounted to about $ 10 million consisting of $ 4.6 million equity investments and about $ 5 million loan capital.[17] By 1970 LMC had invested $ 44.7 million in plant, machinery and equipment and infrastructure. The construction of a benefication plant at a cost of $ 12 million enabled LMC to produce concentrates. The initial capital of $ 10 million for the operation of the NIOC mines was provided by the Liberian Government, $ 5 million, LMC $ 1.5 million and the Liberia Enterprises, Ltd., $ 3.5 million. Investments had increased to $ 47.7 million by 1970.[18]

To date, the LAMCO mining project has invested more than $ 350 million in the Nimba iron ore mine.[19] With most of the capital invested in production facilities, and the remainder on infrastructural and social facilities.[20] However, total investment cost of the project was estimated at $ 200 million in 1959. One peculiar feature of LAMCO's investment financing is that nearly 90% of the investment funds were borrowed which has serious reprecussions for the Liberian Government. It can be noted that LAMCO relied heavily on non-equity capital which sometimes took the form of disguised equity capital to finance its investments and has continued to finance its operations with loans even after it had made its initial investments thereby resulting in a high overall debt-equity ratio of about 9:1.[21]

The total amount invested in the Bonge range in order to bring the mine into operation was $ 76.1 million. The construction of the mine which included investments in a rail road ($ 18.3 million) and a concentrator ($ 22.0 million), started in 1962 and was completed by 1965. But just as the other mining companies in Liberia, most of the initial investments made at Bong mines were financed out of borrowed funds amounting to over $ 66 million and in the second half of the 1960's, stockholders loans amounted to about 25% of all loans (with debt-equity ratio of about 6.17:1) which resulted in a loss to the Liberian Government of over $ 1.8 million. Because of the use of disguised equity capital, the Government of Liberia made a agreement with the private shareholders in 1972 which gave them the privilege of a part of their loans amounting to $ 4 million to be treated as non-interest bearing loans for a period of eight years starting from January 1, 1973. The amount of $ 120 million for BMC's expansion programme (1975-1977) was provided by Kreditanstalt fur Wiederaufbau (KFW). Two loans, one in 1975 ($ 32 million) with an interest rate of 10.25% which should have been repaid in 1982 and the other in 1976 ($ 23 million) with an interest rate of 9.75% and due in 1986 were obtained from KFW. The first loan was made in Deutch Mark and the second U.S. dollars. Another loan granted to BMC included the $ 37 million loan provided by the Italian Finsider Group in 1976 out of which $ 12 million was obtained through the EEC with an interest rate of 10.85% to be repaid in 1985.[22)]

These loans which carried high interest rates had to be repaid in U.S. dollars but with the weakness of the dollar during the past decade, coupled with the problem of currency fluctuation (Deutsch Mark and Swiss Francs in which most of the loans were made), BMC incurred exchange losses totalling $ 40 million during the period 1969 to 1976. $ 21.4 million of this amount had been charged to income in 1976 thereby causing the Liberian Government to lose about $ 10.7 million.[23)]

2.3 CONCESSION AGREEMENTS

2.3.1 LIBERIA MINING COMPANY (LMC)

On August 27, 1945 a mining concession was granted to Col. Lansdell Christie (LMC) by the Government of Liberia. This concession gave Col. Christie the exclusive exploration (area of about 40 miles in radius from Bomi Hills) and mining rights to mine iron ore and ore metals with the exception of gold, platinum diamonds and other precious stones for a term of 80 years with a 3 1/2 years exploration period. The concession further gave Christie rights to construct Accessory works, including roads both within and outside the concession area. To transport the property of their concessionaires at a reasonable and uniform price; provide transportation and communications facilities to the general public; to mortgage the concession and the right to Government protection. The concession agreement provided for duty-free privileges, exemption from all taxes in lieu of an exploration tax, a surface tax and a royalty. Exemption from paying import and export duties and excise taxes. LMC was responsible to pay to Government and exploration tax of $ 100 per month during the exploration period and $ 250 per month during any extension, an annual surface tax of 5 cents per acre on the exploration lots during the first 5 years, 6 cents per acre during the next 5 years, 10 cents per acre during the next 10 years and 25 cents per acre during the remaining years.[24)]

A basic royalty payment of 5 cents per ton on all iron ore exported, an excess royalty of 1% of the amount in excess of a 15% price increase, a royalty of 2% of the average realized F.O.B. Monrovia value of other exported unprocessed ores and a royalty of 5% of the net average F.O.B. Monrovia value of metals produced from ore and exported. The concession agreement included free medical care for LMC's employees, an obligation to pay workers and their heirs an indemnity in case of an accident on the job, to import unskilled labor with out Government's approval and employ not more than 150 white

employees with out approval of Government; obligation to submit annualy reports of technical affairs and computation of royalties; the right to refine and transport the products and property of other concessionaires, and may reach an agreement with the Liberian Government for the production of excess power and its sale. The Liberian Government is entitled to use LMC's railroad. LMC was obliged to avoid waste of exploited materials and prevent fire; without approval of the Liberian Government, transfer to a foreign Government was not allowed and at least 60% of the shares of the concession must be owned by Liberian or U.S. citizens. A general obligation to prevent damages which may prove prejudicial to the country. The concessionaire has the right to make payments in U.S. dollars with approval of the Liberian Government. Both parties could terminate the agreement. In the case of termination of the concession agreement, immovable infrastructural facilities revert to the Liberian Government and with respect to arbitration, two, if necessary even three arbitrators decide and the decision will be final and obligatory.[25)] A collateral agreement was concluded between the Liberian Government and LMC in 1952. Provisions stipulated in this agreement included the following: the entitlement to Government of $ 1.50 on each ton of high grade open hearth lump ore exported; 10% of the F.O.B. Monrovia sales price actually received regarding secondary ores - fines; the revision of the 1949 sales agreement between LMC and the Republic steel company; the specification of the company's debts and the financing of the capital of the company as at 31 July 1952; and specified the items below as being deductable from its operating income to determine net taxable income:
(1) all operational, promotional, and selling expenses, including all expenses with respect to labour, transportation, insurance, handling, capital equipment and tools, etc.;
(2) a provision for depreciation and obsolescence of rolling and non-rolling capital goods; (3) cost of laboratory and mineral research, sampling, analysing, exploration and

development costs incurred each year; (4) commissions and fees; (5) idle time expenses; (6) debt-amortization and interest payments; (7) reserves for replacement, development and expansion and contingencies; (8) royalties, exploration and surface taxes, port harbour and bridge charges, tolls and fees, duties and taxes; (9) any loss sustained in the preceeding five fiscal years; and (9) all other proper expenses incrurred in connection with the business operations.[26)]

2.3.2 LIBERIAN AMERICAN-SWEDISH MINERALS COMPANY (LAMCO)

The first concession agreement was granted to LAMCO by the Government of Liberia on September 9, 1953. This agreement was revised on two different occasions. On April 28, 1960 and February 26, 1974. However, for the sake of brevity, this study will concentrate on the 1974 concession with reference to previous agreements when necessary. LAMCO was given a 70 years concession (renewable) with exclusive exploration (five-year period) and mining rights in an area about 300 square miles for mining iron ore and iron ore bearing materials and until December 31, 1975, comlumbite around the Nimba Mountains and some specified areas in Grand Bassa County. Provisions were made for the use of public lands both inside and outside the concession area. But the transfer of public lands to private ownership was not allowed if it conflicted with interests of the concessionaire. LAMCO is subject to certain specified taxes of general application but excluding, among others, coperate income taxes. With the exception of consular fees at a flat rate of $ 240,000 per year, the company was exempted from paying import duties, export duties and excise taxes.[27)]

Royalty payment of 4% of LAMCO's net sales of iron ore and iron ore products calculated on a F.O.B. basis and subordinated to LAMCO's debt service - effective royalty of 2% following Liberian Government's 50% ownership. An obligation to spend a minimum of \$ 200,000 on exploration work during the first 18 months, plus an undetermined amount provided certain conditions have been met as well as the provision that subsequent operational expenses should average \$ 100,000 per year. A debt-equity ratio of 3.5:1 was provided for but no imposition of sanction in case of violation. Under the 1974 concession agreement, LAMCO is obliged to submit reports on training and scholarship programmes, provide free medical treatment to employees, some local government officials and their family, free primary and secondary school education for employees' dependents and some local government officials; protect the water, land and atmosphere from pollution; contamination or damage.[28)]

LAMCO is obliged to give preference to available skilled Liberians and not to import unskilled labour as well as permit Liberians to primarily conduct and manage the operations and activities of the consessionaire. To provide on-the-job training in various operations and to operate vocational training centers as well. The Government of Liberia 50% interest remained unchanged in the 1974 agreement. Five of the eleven members of the Board of Directors are to be appointed by the Liberian Government. There is a general commitment to prefer competitive Liberian goods and services and the right of the Liberian Government to purchase LAMCO's output was limited to only 5%. However, there was no obligation to participate in iron ore processing facilities and the assignment to an affiliated company for the purpose of raising funds is allowed subject to Liberian Government's approval. The Government of Liberia has limited rights to terminate the concession agreement. All subsurface minerals rights and fixed assets shall revert automatically to the Liberian Government as well as an option to purchase movable assets including stockpile after termination of the agreement.

In the case of a profound change in circumstances, parties may request review of the concession agreement. Dividends payable to private shareholders and payment of interest, principal and premium will always be convertible from Liberian currency at the prevailing free market rate of exchange into U.S. dollars or any other currency with no restrictions on taxation of transfers of money abroad as well as exemption from exchange control regulations. In the case of arbitration, parties have the right to submit dispute to the International Center for Settlements of Investment Disputs and the Arbitral Tribunal shall apply the Law of Liberia, in principle and its decision shall be final and binding.[29)]

2.3.3 <u>BONG MINING COMPANY (BMC)</u>

A concession agreement granted to Gewerkschaft Exploration by the Government of Liberia was signed on September 16, 1958. Gewerkschaft Exploration was given the right to explore within the period of five years in an area of about 300 square miles around the Bonge Range to mine and export all minerals including oil and gas except gold and diamonds for a period of 70 years. Exploration was to commence within six months of the signing of the concession agreement at a cost of $ 50,000 per year. The Liberian Government is entitled to a 50% ownership in the profits of the mining operations in the form of 1000 shares of Class A Stock and also the naming of five of the eleven members of the Board of Directors. The other 50% represents 1000 Class B Stock and the entitlement of six members of the Board of Directors by private foreign Stockholders. The Liberian Government waves its rights to royalty payments in view of its 50% share in net profits. The concessionaire and its property are exempted from taxes of all kinds except an exploration tax of $ 100 per month and a land use tax of six cents an acre which increases to twenty cents an acre after ten years.

Employees are obliged to pay to the Liberian Government income taxes and a foreign residence tax. The concessionaire is obliged to sell any and all minerals and other removable resources at prevailing world market prices and conditions in accordance with good and recognized business practice; to supply monthly reports, provide free health care for all workers, allow production records to be exmained and to provide samples of all ore sold and exported.[30)]

The concessionaire has the right to occupy the surface area to be mined; construct the necessary infrastructure conducive for mining; employ foreign skilled workers; use land and water on the concession site and exempted from customs duties and have government protection. As all other concession agreements, this agreement includes the famous "most favoured company clause". With respect to termination, the company can terminate the agreement at any time by a written notification, however, the Liberian Government can terminate the agreement only if after six months upon a written request by the Government, the company fails to correct any violation of an article in the agreement. Disputes are to be settled by an arbitration board made up of one person chosen by the Government and the other by the concessionaire while the third by the first two. If there is no compromise, on the selection of the third person, the selection will then be made by the International Court of Justice in the Hague but both parties waive the right to appeal any decision reached by this means.[31)]

2.3.4 NATIONAL IRON ORE COMPANY (NIOC)

The National Iron Ore Company was given the exclusive exploration and mining rights with respect to iron ore and other ores, metals, minerals and precious stones in an exploration area of 24,560 acres near the Mano River including the Mano River Iron Ore Deposits, a Maximum of 50,000 acres of mining area with a five year exploration period on March 13, 1958. The term of the agreement is 80 years. The company was given the exclusive right to construct the necessary infrastructural facilities conducive for mining operations both within and outside the concession area. However, NIOC is obliged to prevent damages which may prove prejudicial to the country or third parties as a result of mining. NIOC was obliged to pay an exploration tax of $ 100 per month during the exploration period and $ 250 per month as a result of any extension. The payment to the Liberian Government of an annual surface tax of 6 cents per acre on the exploration lots during the first ten years, ten cents per acre during the remaining years.[32)]

The concession agreement exempted NIOC from the payment of all taxes and duties including import and export duties, excise taxes and royalties in lieu of an exploration tax, and a surface tax. NIOC is however obliged to submit technical reports relevant to exploitation, provide free medical care for its workers, avoid waste of exploited materials and to prevent fire. Pay to workers or their heirs, an indemnity in case of accident on the job; not to import unskilled labour and employ more than 150 white employees without the approval of the Liberian Government; may refine the products and transport the property of other concessionaires; may reach an agreement with the Government for the production of excess power and its sale, and the Government is entitled to use NIOC's railroad. Transfer to a foreign government is not permitted, though it is subject to the Liberian Government's approval; at least 60% of the stock of NIOC is to be owned by citizens of Liberia and/or the U.S.A.; in the case of termination both parties have possibilities to terminate the agreement, immovable infrastructural facilities revert to the Government of Liberia; NIOC has the right to make payments in U.S. dollars subject to the approval of the Liberian Government; with respect to arbitration, two if necessary three arbitrators decide and the deicion will be final and obligatory.[33)]

CHAPTER THREE

ECONOMIC IMPACT OF IRON ORE MINING

3.1 IRON ORE WORLD MARKET CONDITIONS

The structure of the world market for iron ore is for the most part, oligopolistic. The price of iron ore is negotiated between large producers and large buyers who draw up short and long term sales contracts containing specific delivery dates, ore quality, etc., generally for the period of one year (short-term), 10-12 years which sometimes extend up to 20 years (long-term), taking into account world supply and demand for iron ore.[1)]

An international market for the sale of iron ore did not exist before 1960. Trade in iron ore up to the mid 1970's was basically of a regional nature. However, with the introduction of huge ore carriers over the past decade and a half and the establishment of efficient bulk handling facilities at major ports, the shipment of iron ore over a much greater distance has been made economically possible. As a result, the regional markets are gradually merging into one single world market.[2)]

Although the world market for iron ore is concentrated, a free market also exists but ore buyers in developed countries like to know far in advance the price of the ore before delivery date and with long-term contracts, the attempt by iron ore exporting countries to form a cartel with the aim of administering a coordinated price policy is met with serious problems. In the case of 'captive mines' where the buyers of the ore own or have helped to develop the iron ore mine, there are 'tied sales' contracts involved. This enables buyers to obtain the ore at prices that may or may not be related to the price that other buyers are paying for the same quality of ore. It was estimated in 1970 that captive mines provided 30% of iron ore purchased by major industrial countries, 36% on the basis of long-term contracts and the rest was bought on the free market.[3)]

The demand for iorn ore in the short-run is determined by the performance of the steel industry and in the long-run by technological advancement in the iron and steel industry.[4) World demand for iron ore has grown at an annual rate of 3.6% during the period 1960-1980 and it is anticipated to grow at a lower rate of about 2.4-2.8% up to 1990. Over the last decade, world production of iron ore grew at a rate of 1.5% and developing countries accounted for about 25% of the total. Major producers in 1980 included: Brazil (11.0%), India (4.7%), Liberia (1.9%), and Venezuela (1.8%). The dramatic increase in Australian production from 3 to 54 million tons (15.8% per annum) has contributed to a situation of world over-supply and depressed prices causing a decline in market shares of some of the large producers.[5)]

World reserves of iron ore are sufficiently large to meet world needs for at least 200 years at the present rate of extraction. About 31% of world reserves of iron ore are found in developing countries and Liberia accounts for 2.2%. Annual iron ore production in 1960 was less than 250 million but in 1984, it reached approximately 500 million tons with most of the increase originating from Australia, South Africa, and South America. Developing countries produced about 25% of the world iron ore and 7.2% of its steel in 1980. However, a combination of technical as well as political problems have made production in Liberia, Angola, Venezuela, Peru, and Chile to decline in absolute terms during the 1970's.[6)]
The last peak year for steel production was 1974. Since the demand for steel is directly related to the rate of economic growth, lower GDP growth rates due to the energy crisis and the levelling off in the metal-intensiveness of advanced industrial economies is resulting in continued lower growth in the demand for steel. Annual rate of growth in steel demand is expected to decline from 4.1% (1960-1980) to less than 3% in 1980-1990. Demand in developed countries which consume 50% of world steel production is expected to grow

at about 1-1.5% annually, as compared to 4-6% for developing countries. Mainwhile, since the developed countries continued to expand capacity at a time when demand was falling, they are presently suffering from excess capacity which is expected to continue through 1985.[7] In 1980, developing countries produced 52 million tons of raw steel and consumed 61 million tons. With the growing disparity between developed and developing countries regarding per capita consumption of steel, it is not expected that steel production in developing countries will keep pace with internal demand.[8]

The foregoing analysis of the conditions apparent in the international market for iron ore has tremendous impact on the Liberian economy. Liberia being Africa's number one producer of iron ore depends largely on that industry to enhance its economic development. However, several factors with respect to the conditions affecting the sale if iron ore on the world market have adversely affected the benefits accruing to the country as a whole. Prominent among these factors is the current low world demand for iron ore along with world oversupply and excess capacity in the steel industry, which have led to increased costs of production in the Liberian iron ore industry consequently squeezing profits out of which the Government receives its share of the iron ore surplus generated.

Furthermore, orthodox economic theory argues that developing countries should concentrate on the export of primary goods and particiate in international trade in order to enable them to generate sufficient capital so as to develop their own economic structures through the spin-off effect. Additionally, rich minerals African countries should encourage the influx of foreign capital to develop mines and export minerals to the industrialized world, assuming the establishment of a partnership for development kind of relationship between mining companies and host governments.[9]

In this connection and with reference to the Liberian case, foreign investors bring in their financial, technical and marketing expertise and establish mining companies and other enclaves, assuming that they would generate adequate return on their investments and the country, on the other hand, would also gain since iron ore resources are being transformed into income-producing assets, foreign exchange earnings and local employment being increased and the multiplier effect of the mining companies' expenditure on local labour and stores would expand the domestic economy. However, this is not the real situation. Liberia is dependent on the export of primary products especially iron ore and rubber and her iron ore resources are being depleted without generating any spread effect within the economy. The fluctuating price for primary products and the control over the mining industry by the foreign mining companies make planning for economic development quite difficult if not impossible, while on the other hand, most of the surplus generated by iron ore exports do not accrue to the government but to the mining companies who control the mining, shipping and fabricating of the ore.[10)]

3.2 IRON ORE PRICE, OUTPUT AND CONTRIBUTION TO GROSS DOMESTIC PRODUCT (GDP), 1973-1983

Since iron ore mining involves very heavy long-term investments financed with the help of consumers, it is usually sold under long-term contracts at prices often kept secret. This situation makes the development of a coherent world price structure difficult. However, according to some figures collected by UNCTAD in 1979, the real price of iron ore has been on a downward trend for more than two decades, falling from $ 9.87 per ton in 1955 to $ 8.16 in 1976, while the depreciation of the dollar in which most export prices of iron ore are calculated has made the problem even worse. At the same time, the cost of producing iron ore has increased considerably, leading to a tight squeeze on profits, especially in developing countries.[11)]

A committee of producers and consumers (UNCTAD) is currently studying the feasibility of an international commodity agreement for iron ore as part of UNCTAD's integrated programme of commodities. Negotiations in this committee are still at an early stage but producers are keen on developing a common policy so as to improve prices. Some developing countries are advocating the establishment of a kind of link between iron and steel prices but pressure form the steel industry may not permit this to happen. Mainwhile, the Association of Iron Ore Exporting Countries (APEF) of which Liberia is a member, has failed to reach any concrete arrangement on the problem of falling prices since the association does not cater to forming a cartel, in addition to opposition from its industrialized members, Australia and Sweden regarding the dispute over declining prices.[12)]

Unlike other major metals, iron ore is not traded on a commodity exchange since there exists no reference grade, uniform standard or fixed contract for the commodity against which price movements would be gauged thereby rendering its price ambiguous. However, comparisons between iron ore prices are cautiously made in relation to prices per metal (Fe) unit content, taking into consideration cif and fob prices.[13)]

The huge start-up costs required to finance the development of a mine have resulted into a tendency by large steel producers to join together to raise the necessary finance as in the Liberian case. This action has serious implications for the pricing of the ore. Nevertheless, the operation of such a mine requires a very low unit cost of production and the practice of transfer pricing becomes quite complicated since the mine is located far from the point of consumption and the partners in the venture are located in different countries. Different fob prices reflecting maritime costs are charged to different partners and the partners far away from the market encourage negotiation of a contract containing cif prices, while other partners located near the source of production would prefer fob prices. Therefore, the basis for pricing provisions in contracts are disputed between venture partners from different countries and not the host government or its agents.[14)]

According to a recent report prepared by the UNCTAD Secretariat, the real price for Liberian iron ore has dropped from $ 23.22 in 1970 to $ 16.47 per ton in 1983.[15)]

The production of iron ore in Liberia which increased from 3 million in 1960 to 25.3 million long tons in 1974, the highest level ever achieved, steadily began to decline thereafter to a level of 15.6 million long tons in 1983. With the closure of the Liberian Mining Company in 1977, only LAMCO, BMC, and NIOC are presently in operation. According to recent statistics published by the Ministry of Planning of Liberia, iron ore production declined by 13.2% from 18.0 million tons in 1982 to 15.6 million tons in 1983, mainly due to a 21.4% fall in production by LAMCO, Liberia's largest ore producer, from 9.3 million metric tons to 7.3 million metric tons. In addition, the long world low demand for iron ore caused by recession in the steel industry as well as increases in production costs, have contributed to the overall decline in the mining companies' production over the period.

Contribution of iron ore mining to Gross Domestic Product indicates the level of benefits accruing to the domestic economy. The mining industry has contributed greatly to GDP. However, its share has been declining due to the depressed market for iron ore and lack of efforts to increase value added in that sector. In 1973, iron ore mining accounted for 52.4% of GDP in current prices. This share declined to a figure of 36.6% in 1983. Although the value of iron ore output has not been fluctuating very widely, the value of output in 1983 ($ 267.3 million) was higher than that of 1973 ($ 196.7 million) but quite lower than the peak value of $ 328.7 million in 1976, after which the industry has yet to achieve such level. (Table 1) In comparison to other sectors in the economy, iron ore mining as a single economic activity has made the highest contribution to GDP over this study period and the significance of the impact on the economy neednot be overemphasized.

3.3 CONTRIBUTION TO GOVERNMENT'S EXPORT AND TAX REVENUES

With respect to fiscal benefits accruing to Government from the iron ore mining companies, it is argued that even if the mining industry remains an enclave, the country will nevertheless benefit from it financially. In order for mining companies to obtain licence to develop mineral deposits, they must certainly pay taxes and the government could use this income to develop the country's educational, technical and industrial infrastructure or the income could be channelled through the central and commercial banks to provide risk capital so as to promote development of new enterprises and local entrepreneurs. However, revenue accruing to the government from taxes will depend on the value of the mineral, the profitability of the mine and the division of profits.[16)]

One of the most significant aspects of the mining industry for Liberia is its revenue generating capacity. The main principle guiding the government's taxation policy with respect to the mining companies derived from the joint-venture concept. On that basis, the government receives revenues by sharing in the mining companies' profits, which is an indication that the government particiaptes only as a shareholder in the mining industry and thereby receives dividends in proportion to the number of shares it holds, while at the same time, the mining companies are exempted from paying all taxes of general application in Liberia with the exception of those provided for in the concession agreement. In Table 2, the sharing of the surplus generated from the mining industry in the form of dividends & taxes to government as well as profits to the mining companies are shown. The significance of this table is to indicate that the mining companies receive more in terms of monetary benefits accruing from the iron ore mines than the government. During the period 1953 to 1971, an average of 18% of government's total domestic revenue came from iron ore profit-sharing. In the mid 1970's, it decreased in proportionate terms, while increasing in absolute amounts down to 11 % in 1977. The major source of government's revenue has traditionally been import duties and related indirect taxes and their contribution to toal domestic revenue has varied between 30-40%. An important factor which affects the size of the government's stake from the mining companies is the sizable deductions made by the companies before arriving at the distributed profits. This has been caused by policies relating to pricing of the ore, management and control of the mines, payments to government, and the general financial aspect of the mining companies' operations.[17)]

Government's revenue declined from $ 28.3 million in 1976 to $ 3.9 million in 1983. (Figure 1). Receipts from iron ore profit-sharing decreased by 32.5% from $ 8.3 million in 1980 to $ 5.6 million in 1981 as a result of the declining trend in receipts from the mining companies and with the slump in the iron ore market coupled with the high oil prices, further increasing cost of production in the iron ore industry. Although iron ore Profit sharing increased to $ 3.9 million in 1983 as compared to $ 2.5 million in 1982, it remained far below the 1977 level of $ 19.5 million.[18)]

3.4 BALANCE OF TRADE AND FOREIGN EXCHANGE CAPACITY OF IRON ORE EXPORTS

In the 1950's, iron ore and rubber exports together contributed about 90% of Liberia's total export earnings. However, Liberia's one-sided export trade has been dominated by iron ore alone since the mid 1960's, accounting for 70% of total export earnings during the period 1965 to 1977.[20) In 1974, iron ore exports alone accounted for about 74.4% of total export earnings. Since that time, it has steadily been declining and has reached a level of about 50% in 1983. Agricultural exports of significance, at the same time, have been increasing their share in total exports. The value of coffee exports which averaged 1.3% of total exports during the period 1973-1976, increased to 6.2% between 1977 and 1980. Cocoa which averaged 0.9% during 1973-1977 period, increased to 2.0% between 1977 to 1980. Logs and timber revenue increased from an average of 4.9% during 1973 to 1976 to 9.4% during 1977 to 1980 period. The value of sawn timber on the other hand, has dramatically increased from less than $ 100,000 in 1973 to more than $ 8.0 million in 1980.[21) Despite the declining share of iron ore in total exports, it is no doubt the most significant contributor to government's foreign exchange earnings.

Liberia's imports on the other hand, are widely deiversified. The economy is highly dependent on imports, not only raw materials, supplies and equipment but also of food products including its staple food, rice and other basic consumer goods. Imports of consumer goods during the period 1973-1976 amounted to 23.3% of the total import bill. Investment goods, 24.6% and raw materials, 52.1%. During the period 1977-1980, consumer goods averaged 25.7%, investment goods 21.9% and raw materials 52.5% of total imports.[22)

The significance of foreign trade to the Liberian economy is manifested in the relationship between exports and imports to GDP. Over the period, 1973 to 1975, export earnings per annum averaged 66% of GDP at current market prices and imports expenditure 51%. During the period 1977 to 1980, export earnings per annum averaged 54% of GDP, and imports expenditure averaged 50%. The relative fluctuations indicate how highly sensitive the economy responds to changes in the foreign trade sector. Further, the impact of the performsnce and prospects of foreign trade on the overall development of the Liberian economy can never be overlooked.[23)]

The rapid increase in world market prices, particularly for crude oil, has had an adverse effect on the total import bill. At the same time, the slump in the market for iron ore has had a depressing effect on export earnings. (Figures 2 & 3). The value of imports increased from $ 193.5 million in 1973 to $ 399.2 million in 1976, accounting for an annual growth of 27.3%. In 1980, the value of imports increased to $ 533.9 million, reflecting an annual growth of 7.5% per annum between 1976 and 1980. Exports, on the other hand, increased from $ 324.4 million in 1973 to $ 457.1 million in 1976, accounting for an annual growth of 12.6%. In 1980, exports increased to $ 600.5 million, accounting for about 7.1% per annum. Furthermore, considerable deterioration in the terms of trade was registered during the period 1977 to 1980, reflecting a widening gap between import and export prices. In real terms, however, exports increased annually by about 3% between 1973 and 1980 and imports virtually stagnated.[24)]

The open nature of the Liberian economy, the virtual lack of exchange controls and the use of the U.S. ($), dollar as legal tender has resulted in the National Bank of Liberia not undertaking traditional central banking activities nor, keeping large amounts of foreign currancy thereby enabling the government to avoid many of the conventional balance of payments problems. Therefore, the government meets its foreign obligation by the use of the U.S. dollar. What is considered a balance of payments problem for other countries, is in fact a budget problem for Liberia.[26)] It is important to note that the persistent low demand for Liberia's major exports, of which iron ore accounted for about 55.9% in 1983, has led to the deterioration of the current account. In 1983, the current account recorded a deficit of $ 77.1 million compared to a deficit of $ 48.6 million in 1982, representing a 58.6% increase in the current account deficit. The main contributing factor to this decline was the sharp drop in the value of exports of goods and non-factor services compared to the fall in the value of imports, resulting in a 73.5% decline in the resource balance from $ 32.1 million in 1982 to $ 8.5 million in 1983.[27)] The balance of trade which has always registered a surplus, except for the period, 1961-1963, is steadily declining. The fact that the value of Liberia's exports are measured to be higher than imports may be attributed to the low domestic economic activity than to favorable export markets.[28)] Export earnings have been falling by an annual rate of 10.7% since 1980 as the result of the low world demand for Liberia's major exports. In 1983, the gap between export and import prices began to close, resulting in an 18.0% improvement in the terms of trade. This achievement was primarily due to the decline in crude oil prices and the substitution of refined petroleum products for crude oil. The value of iron ore exports amounted to $ 267.3 million in 1983 compared to $ 311.1 million in 1982, representing a decline of 14.1%. This decline is attributable to a 4.3% drop in the volume of iron ore exported, from 16.4 million metric tons in 1982, and a 10% fall in unit price, from $ 18.97 per metric ton to $ 17.82 per metric ton.[29)]

3.5 LINKAGE DEVELOPMENT

One of the most important developmental aspects attributed to foreign investments is to create linkages with other sectors of the host country economy so as to enable the benefits of the investments to spread directly or indirectly. However, in the case of Liberia, processing of iron ore output from the mines is only limited to its upgrading by pelletizing. It is assumed that a mining industry creates strong forward linkages and weak backward linkages. As for Liberia, a typically one-sided export enclave economy, the foward linkage effect of iron ore mining is being transferred to the rich countries, while the backward linkage with other sectors of the economy is quite minimal owing to the weak industrial structure of the country, in addition to the very low and limited level of manufacturing and the availability of consumer goods as well as capital goods including, equipment, spareparts, materials and supplies necessary for the running of the mines.[30)] Most of the imputs required for the production of iron ore are imported.

In the past, Liberia may have benefited more from further processing of its iron ore. Although there are several factors which may inhibit the processing of mineral output in developing countries by foreign owned mining companies, governments of developing countries could nevertheless increase their benefits by further processing of their mineral resources. The processing of minerals in developing countries will first of all deter the mining companies from building up new capacity in the short-run. The availability of financing infrastructural facilities for processing of the ore may pose a serious constraint if such facilities were not available in the host country. The skewed tariff structure in the industrial countries is biased towards mineral processing in exporting developing countries. These factors give the mining companies the opportunity to maintain a strong argument for their reluctance to establish processing facilities in developing countries. The multinationals desire to avoid political risk in developing countries which may include possible nationalization of the enterprise without making adequate compensation or increase taxation, could endanger the establishment of ore processing facilities in developing countries.[31)]

On the other hand, tremendous economic benefits could be derived from further processing of minerals in developing countries. The reduction in the cost of transportation could provide savings from concentration of the industry. This factor is very important to the over all economy of extraction. The relative laxity of regulations regarding pollution in developing countries could reduce cost of processing. Other factors suitable for processing of minerals in developing countries include the low cost of labor and in some cases energy. If the mining and processing of minerals are under a single ownership, the possibilities for manipulation of profits and transfer pricing would not exist. Further, the process of forward integration could be instrumental in transferring to the mineral exporting country some of the monopsony profits that are earned by consumers of unprocessed ore since the buyers of refined metals have considerable scope for substitution of one metal for another whose price elasticity of demand is assumed to be high. The processing of ore domestically increases GNP and government's revenues despite the high capital-intensity associated with processing ventures. The increase in GNP and government revenues is assumed to compensate for the low level of employment. Forward integration from crude mineral into refined metal product is determined to reduce the instability in export prices and revenues of mineral exporting countries.[32)]

CHAPTER FOUR

SOCIAL IMPACT OF IRON ORE MINING

4.1 GENERATION OF EMPLOYMENT AND WAGE PAYMENTS

The total number of Liberians employed in the iron ore mining industry reached its maximum level of approximately 10,700 in 1974. The number of expatriates during the same period was about 1,100. After 1974, the total number of Liberians employed in the mining industry declined to less than 9.000 in 1978.[1] Mainwhile, total employment in the industry declined further, falling by 14.4% from 8,639 employees in 1982 to 7,392 in 1983 mainly because of retrenchment measures taken by the iron ore mining companies as a result of low world demand for iron ore which have led to increasing financial problems for the mining companies.[2]

According to Dieter Henskel, it is assumed that workers of BMC and LAMCO are on the top of the remuneration pyramid in Liberia, and that the average hourly wage for BMC's workers is higher than the minimum wage which rose from 22 cents in 1964 to 34 cents in 1969 and up to 63 cents in 1977.[3]

Total wages paid to Liberians and expatriates in the iron ore mining industry were $ 47.9 million in 1978. Nevertheless, expatriates who make up only 9 percent of total employment received 47.2 percent of total earnings. This is an indication of a twofold income dualism which explains the strong demonstration effect of the expatriates on one hand and the attraction of mining enclaves to other Liberians who may otherwise receive comparatively even much lower income as in the agriculture sector where the minimum wage in 1979 was increased from $ 1.50 to $ 2.00 per day. The wage differential between mining, commercial agriculture and other sectors have been persistent, and have significantly caused a strong migration to the mining enclaves. This attraction is exacerbated even more by factors like education and health facilities which the mining companies offer their employees and their dependents.[4]

The average monthly wages and salaries in the iron ore mining industry was estimated in 1980 at $ 281.96 (workers), $ 953.29 (Liberian staff) and $ 3,061.43 (expatriate staff). This is an indication of large difference in remuneration between expatriates and Liberian workers and with the lack of restrictions on repatration of salaries of expatriates, there is a continuous flow of surplus from the mining industry to the rich countries. (Table 3). In 1983, as the result of the retrenchment measures taken by the mining companies, the average monthly salaries registered increases of 4.1% for Liberian staff, 5.0% for expatriate staff and 15.7% for Liberian workers.[5)]

One of the most important feature of iron ore mining is its very high capital-intensity as compared to other sectors of an economy. The larger the size of the mining operations, the higher the capital-labour and output-labour ratios.[6)] All of the mining companies in Liberia operate from open-pit mines which are more capital-intensive than underground mines which are more labor-intensive.

4.2 EDUCATION AND TRAINING

The benefits received from education and training programmes including on-the-job training and adult literacy programmes provided by the mining companies have a significant impact on the education of Liberians and on the development of skilled manpower particularly in various technical and industrial fields. With the existing low level of technical education generally in the country, it is no doubt that the mining companies greatly contribute towards boosting the development of Liberia's technical and industrial manpower.

There are generally two basic objectives for establishing education and training programmes in developing countries by mining companies.[7)] The first is to develop the skills required for the efficient running of the mines and the second is to implement the manpower policies of the government which aims at maximizing employment of nationals. The first objective is directly related to the economics of mining operations since the overall costs of national employees tend to be significantly lower than those for expatriates. There is generally a much higher turnover rate for expatriates as compared to nationals in mining projects. With the combination of high turnover rates for expatriates and government's policies regarding maximizing employment of nationals, mining companies are induced to conduct extensive training programmes.[8)]

As a result of the shortage of skilled Liberians in technical and industrial related fields which retards the rapid economic development of the country, there is a greater reliance on expatriate labor. In order to carry out the government's liberianization policy, all of the mining companies contribute to the promotion of education and training of Liberians in order to gradually replace expatriates. With respect to the Bong Mining Company, under Liberian management,[9)] a total of more than 2,600 children and youths are being educated in the company's schools which range from kindergarten to the 12th grade or senior high school level. The vocational training center with the boarding facilities, trains more than 90 apprentices in various technical and related fields. Further, in cooperation with LAMCO, the BMC finances and manages a Basic Metal Training Programme at the Booker Washington Institute in Kakata and finances a number of local and foreign scholarships,[10)] from which many Liberians benefit.

As regards LAMCO, there are a number of schools in Yekepa and Buchanan where the mining operations are carried out, which are supported by the company. These schools range from kindergarten to senior high school level. The company also operates a vocational training center in Yekepa which has a branch in Buchanan. The company, moreover sponsors on-the-job training as well as adult evening classes for adults, and provide local and foreign scholarships for Liberians as well.

Although training and scholarship provisions were not stipulated in the mining concession agreement of NIOC, the company nevertheless undertakes training programmes particularly with respect to the operation and maintenance of its plants and equipment and special emphasis is being given to supervisory training aimed at accelerating the transfer of technology, while training at all levels is designed to develop Liberian talents and skills for the realization of government's policy of liberianization at the maximum rate consistent with efficient and sound operation of the company.[11)]

4.3 HEALTH

In view of the hazardous nature of mining, the government has obliged mining companies to provide preventative and curative medical care for all of its employees and dependents. With the lack of medical services in remote rural areas of Liberia where the mining operations are located, the vulnerability of contracting diseases as a result of mining is high. In this connection, the provision of basic health care by the mining companies have a significant impact on the population of Liberia, particularly the rural population.

Health conditions in Liberia have been improving over the last two decades.[12)] Life expectancy, for instance, has risen from 50.2 to 52.6 in this period while the supply of physicians and of hospital beds has improved in relation to the size of the population. Health and nutrition levels in Liberia are better than in some neighbouring countries.

Nevertheless, over 35% of Liberia's 2.0 million people have access to any form of modern medical services. These services mainly located in the urban, semi-urban and concession areas range from the better care available at the J.F. Kennedy Medical Center in Monrovia to completely inadequate health posts throughout the country. The total number of health facilities in the country include 58 hospitals and 310 health posts and clinics, making a total of 368 government, concession, mission and private health facilities around the country. For the great majority of Liberians, health care still means a form of traditional medicine which does have its inadequacies. This lack of adequate preventative and curative care, coupled with uncontrolled disease vectors and high morbidity rates, is the prime factor limiting Liberian life expectancy at birth to 52.6.[13)]

The Bong Mining Company has been operating a hospital since 1964.[14)] Presently the hospital has more than 115 beds. There are 36 nurses and 10 doctors. The employees and dependents receive free medical services. All of the inhabitants of that area receive medical services for a minimum fee. More than 115,000 persons were treated in 1977. A comparison of health indicators between the BMC and Monrovia region and that of the remaining country shows that the standard of services is above that of the other areas in spite of the explosive increase in population in the mining area. The Bong Mining Company's expenditures for health during the past few years were equivalent to 25% of the Liberian Government's expenditures for health.[15)]

LAMCO also provides quality health services for its employees and their dependents as well as residents of the mining areas and the general population of Liberia. Emphasis is being placed on improving sanitary conditions in the mining community and preventative health care. LAMCO operates two hospitals, one in Yekepa and the other in Buchanan with a number of clinics. The hospital in Yekepa with capacity of more than 107 beds has six doctors and a number of health officers. It has been estimated that more than 130,000 patients are treated at the LAMCO's medical center annually.[16)]

4.4 INFRASTRUCTURAL DEVELOPMENT

Mining projects can have significant impacts on the structure of society, ways of life, immigration patterns as well as on the physical environment.[17)] Mining operations in developing countries are specially established self-contained communities whose whole activity is oriented to the export market.[18)]

The mining companies in Liberia have established separate communities mainly in remote rural areas of the country where infrastructural development is lacking. The development of infrastructural facilities including roads, buildings, water, power and communications facilities, have greatly contributed towards rural development in Liberia.

The BMC contributed to the construction of port facilities in Monrovia.[19)] In the mining area itself, the company has constructed 525 family dwellings for staff, magistrate, other government personnel and contractors, 174 bachelor staff dwellings, 892 family dwellings and labourers and other personnel, 10 bachelor dwellings for labourers and other personnel. The company has constructed a hospital, two stores, a laundry, messhall, clubs with sport facilities, a radio and T.V. station, several schools, administrative buildings, court house and a police station.[20)]

The construction of a 50-mile rail road[21)] in addition to workshops, water supply system, power plant, concentrator and pellet plant, as well as a good road network in the mining area, contributes to the development of rural Liberia which have been transformed into a semi-urban area, although the rail road is only used for the transport of iron ore to the port of Monrovia and company equipment.

LAMCO, on the other hand, has constructed basically similar infrastructural facilities as in the case of BMC. However, it is significant to indicate that the 165-mile rail road of LAMCO, besides transporting iron ore to the port of Buchanan, provides a railbus service which caters to transport passangers, mainly employees and their dependents, but this facility is available to all Liberians. Further there is a reliable telephone service provided by the mining companies as compared to the national telephone service.

What is most significant as a result of the development of these mining enclaves is that the provision of wage employment, and overall infrastructural facilities and services by the mining companies attract labor to the mining areas which tremendously reduces rural-urban migration and the influx of rural population to Monrovia in search of employment, better facilities and services.

CHAPTER FIVE

POLICY IMPLICATIONS

5.1 NEGOTIATION OF IRON ORE MINING AGREEMENTS

Arrangements between foreign investors and host governments for the development of natural resources have carried various names,[1] including, concession agreement; economic development agreement; service contracts; work contract; joint-venture contract; production-sharing agreement; and most recently, participation agreement. In many cases however, the choices of terminology and form reflect political considerations. In the case of Liberia, it is called a concession agreement.

The terms governing the relationships between foreign investors and host governments are usually stipulated in ad hoc arrangements.[2] The host country's general mining codes, foreign investment laws, and general income tax codes, often allow government officials considerable latitude in tailoring individual concession agreements to suit particular circumstances. In general, ad hoc agreements include matters such as taxation, import and export regulation, employment policy and conditions, and infrastructure. In industrialized countries, mining companies are subject to the general laws of the land except for few issues which may be handled on a company-by-company basis. However, in developing countries, the reliance on ad hoc arrangements is significant because of the special nature of multinational enterprises and the legal tradition of the country. Ad hoc arrangements provide a way of handling the problems of the multinational enterprise such as transfer pricing which creates difficulty for tax and exchange control authorities.[3]

An additional incentive for ad hoc arrangements depends on the importance of the mining activity in the host country. In the case of Liberia, income from four concession operations accounted for almost 65% of income tax revenue in 1968. In such a case, general legislative approaches to govern the mining companies were not particularly attractive to government officials when a few agreements can be tailored directly to the circumstances.[4)]

In the first half of the twentieth century, agreements between fcreign investors and host governments were generally recorded in simple documents in which the foreign companies were given almost unrestricted rights in exploiting minerals. Many of the concession agreements included royalties based on volume of output, rather than on value. The original agreement (1945) between the Liberian Government and LMC provided for a basic royalty of 5 cents per ton on all iron ore shipped. Several later agreements abolished the fixed cash royalties for royalties based on a percentage of the export price of the mineral.[5)]

There are two distinct advantages that can be identified for the host government when comparing this early type of agreement to more recent ones such as incometax arrangements, profit-sharing contracts, and production sharing agreements. One, the royalty payment is an easy type of levy to administer. The collection of a tax based on units of output, host government need to have physical count of volume of production or shipments made by the mining company. Two, the royalty seems to guarantee a payment to the government for the depleted resources despite the level of company's profits. So long as there is production or sales, the government should receive revenue. This feature is attracted to governments about the stability of revenues.[6)]

The concept of taxation of concession income had gained general acceptance in the 1950's. The LMC 1952 collateral agreement allowed the Government of Liberia to participate in the profits of the company. The imposition of income taxes has caused considerable burden on the administrative capacity of host governments. In order to assess income tax, governments must be capable in verifying the sales prices of the mineral and the calculation of deductions for expenses that are charged against gross profit. In most cases, the transactions that led to the income or expenses have been with affiliated companies. In such cases, the company might use prices different from those of non-related parties or it might use other tactics to shift profits from one tax area to another. The administrative machinery of most host governments would have been unable to deal with these problems during the first half of this century.[7)]

The Liberian Government is a major participant in the predominantly foreign owned and wholly controlled iron ore mining industry. Its participation stem from the ownership of shares. Equity sharing or participation may or may not bring the government an effective voice in management decisions of the mining companies and may or may not mean that the government plays an active role in other activities leading to the ultimate disposal of the mineral. However, ownership has political appeal to governments though actual participation in management may be minimal.

The form of equity-sharing which allows the government to obtain equity-interest without a financial contribution is common in the case of Liberia and the mining companies except for the NIOC. Government provided half of the initial investment capital for NIOC. The economic advantages of equity-sharing to the host government is not always self-evident.[9)] The notion that to give up the right to impose 50% income tax by governments, for 50% equity is an equal exchange is misleading. In general terms, 50% equity participation is, in purely financial terms less attractive to governments than is an income tax of 50%. The ownership arrangement permits the government to receive 50% of the dividends. But the payment of dividend is usually less than half of the taxable profits of the mining companies. Dividends derive from the balance of funds after the repayment of principal on debt and after the provision of funds out of profits for reinvestment in on-going operation. Under the equity-sharing arrangement, the government shares in capital expenditures but under an income tax arrangement, the government re ceives its share of surplus before the deductions of such expenditure. In very rare cases are the net cash flow from which dividends are paid may be greater than taxable profits.[10]

With respect to the concession agreement of 1960 between LAMCO and the Liberian Government, half of the annual dividends accruing from the Swedish interest owned by LAMCO-Bethlehem Steel[11] joint venture, was to be received by the government. The right to receive dividends was in lieu of royalties and income tax. Because of the low equity to loan capital ratio, a considerable amount of cash generated, which was estimated at about $ 15 million per year for the first ten years of production was to be used for repayment of debt and interest. On the other hand, were the agreement based on income tax arrangement, the government would receive, revenues from taxes out of profits calculated before the repayments of debt but under the equity-sharing arrangement the government shares in profits calculated after the repayment of debt is deducted. It is assumed that there could have been a higher rate of participation that would have been equivalent over a period of time, to the taxes paid, however, the 50-50 equity sharing arrangement does not benefit the Government to the extent as would a 50% income tax arrangement.[12]

It is worth noting that the concession agreement with LAMCO is even less favorable to the government than has been indicated. There are two additional factors which affected the profits government was to share: as a condition to providing a loan to LAMCO, the Export-Import Bank insisted that $ 25 million in profits be set aside by 1970 in a special reserve. Further, deductions from gross profits for equipment replacement, at a rate of 30 cents per ton in addition to what was to be allowed for depreciation. These deductions were to be made from the profits in which government was to share. Under the income tax arrangement, these deductions would not have been made before arriving at net taxable income. However, as a result of provisions allowing these deductions, the Liberian Government has paid for a considerable portion of the company's capital facilities out of foregone dividends.[13)]

The exchange of some rights to tax for equity could be sound both politically and economically. This is common in many equity sharing arrangements but it is quite unusual where the government has paid for its share of equity at a price paid by other stockholders and, at the same time, given up its right to tax profits. The concession agreement between the Liberian Government and NIOC is unique to this situation which resulted in the most disadvantageous consequences to government, financially. This can only be attributed to the fact that government negotiators did not clearly understand the issues involved.[14)]

Several developing countries lack skilled manpower to carry out effective negotiation and administrating agreements with foreign investors or are not allocating the requisite financial and human resources to this purpose. Because of these weaknesses, some developing countries have recruited foreign advisors to assist in negotiating and administration of agreements. As in the case of Liberia, however, resident foreign advisors were provided under the auspecies of the United Nations Development Programme, to assist the Concession Secretariat which was formed as a result of recommendations by foreign advisors in the past. But foreign assistance has not been a satisfactory substitute for well-trained and organized local government officials.[15)]

A good deal of government's success in the relationship of bargaining, as 'distributional' or as a 'zero-sum game', with foreign investors depend on the structure and make up of the negotiating team. Most often host government negotiators not being cognizance of particular issues or failure to deal with an issue in a precise manner only indicate their inexperience in the particular industry and a corresponding failure to perceive the terms that are important for the government's protection. The impact of this matter is apparent when comparing agreements negotiated in Liberia in the 1940's, 1950's, and 1960's, with government's much more clearly defined proposals put forth in the early 1970's for dealing with future concession agreements.[16)]

If certain principles are followed when negotiating with foreign investors, no matter what the organisational make up of the team may be, the team would be able to negotiate a favourable agreement for the host government. These principles include the following characteristics: (1) the members of the negotiating team, no matter how they are made up, must not vary from negotiating session to negotiating session. (2) they should have a clearly designated chairman with clearly defined powers; and (3) they should have unambiguous authority from government to conclude agreements, subject to executive or legislative approval.[17)]

Some problems host governments face in building an effective negotiating team are: (1) the difficulty in finding negotiators with a complete understanding of the technical l anguage and approaches used by companies; and (2) the difficulty in preserving the lessons from one negotiation in a way that they can be used in future negotiations. When government officials meet with representatives of foreign firms, they are often confronted with concepts which they are not well familiar. The differences between cash flow and profits, the significance of depreciation in relation to profits and cash flow, and techniques of financing are far removed from the usual experience of the government negotiators. Therefore, in order to analyze adequately the proposals of the foreign investors and to formulate creative responses, the government negotiator must have a complete understanding of these concepts.[18)]

5.2 CONCLUSIONS

The preceding chapters of this study have indicated how the impact of foreign investments in iron ore mining has had tremendous effect on the socio-economic development of Liberia.

As the result of the "Open Door Policy" instituted in 1944, Liberia has experienced an unprecedented economic growth caused mainly by the influx of foreign investment amounting to more than $ 1 billion. However, Liberia's dependence on foreign investments especially in iron ore mining which has continued to contribute a sizable share to its Gross Domestic Product (GDP) since the mid 1960's and has continued to serve as a major source of government's revenues, foreign exchange earnings and wage employment, has increased without Liberia being able to increase its benefits from the mining companies at the same time. Instead, the foreign owners of the mining companies who manage and control the mines have been able to collect more benefits from the mines.

The analysis in this study has shown that the distribution of profits from the iron ore mining companies over more than two decades has been unequal and biased towards the foreign owners of the mines. Nevertheless, the analysis has also shown that foreign investment in iron ore mining has greatly contributed to the high GDP figures during the mid 1960's right up to the late 1970's.

The unequal distribution of profits from the mining companies stem from the ownership structure, management and control of the mines which is biased towards the foreign owners. Further, with the government's willing concurrence to certain provisions stipulated in the mining concession agreements relating to the joint-venture-equity (50%-50%) sharing of profits concept in lieu of all other taxes, custom duties, import and export taxes and royalties, the lack of a clear policy on depreciation and other deductions concerning replacement of assets and deductions for reserve, interest on loans, etc., from gross profits before arriving at net profits out of which the government gets its share of dividends, reduces tremendously government's share of dividends. A 50% taxation policy (mining companies' profits) would benefit the government more than a 50% equity arrangement.

Although the mining companies have greatly helped to increase Gross Domestic Product GDP of Liberia, they nevertheless remain enclaves which have very little links with other productive sectors of Liberia's dual economy. The virtual lack of linkages with other sectors is due primarily to the low manufacturing capacity of the economy and sometimes the unavailability of equipment and spare parts as well as basic intermediate inputs required for the mines and the lack of government's clearly defined policies regarding these matters.

The question may then arise, as to why the government has not increased its benefits from the mining companies since the economy has largely depended on iron ore mining as a major source of revenue for the development of the country. Part of the answer to this question has been given in the foregoing paragraphs. However, in addition, there is a conflict as to the nature and objectives of the multinational mining companies on the one hand which caters mainly to the maximization of profits subject to certain constraints and that of the role of government in the development of Liberia on the other hand which aims at increasing revenues, foreign exchange earnings, increasing the employment of Liberians and raising the standard of living of the entire population as well as to provide basic general services. Further, with the acute shortage of skilled administrative and managerial manpower, higher and middle level technicians, Liberia continues to depend, to a large extend on foreign expertise.

Liberia should not depend on foreign investors indifinitely for enhancing its economic development since that is not their main objective. Government should first of all, set its priorities by making a realistic estimate of its available resources, institute a well-established system for economic decisions capable of adapting its planned activities to its budget programme and a system for evaluation as well. Government must be capable of instituting a co-ordinated concession policy with well defined clauses and a development plan with the ultimate aim of achieving integration between the concessionaires and other sectors of the economy if Liberia expects to benefit more from foreign investments.

Priority should be given to manpower development and health care, increased food production, incentives to farmers, as well as the provision of financing and the promotion of small and medium sized agro-based and light manufacturing industries that will take advantage of local available raw materials and resources. And finally, with the sluggish world market for Liberia's major, exports including iron ore, government should lessen its dependence on the export of a few primary products and diversify exports with the view of increasing value-added by further processing so as to make exports more competitive thereby increasing returns to the country.

APPENDIX ONE

TABLE 1

IRON ORE PRICE, OUTPUT AND CONTRIBUTION TO GROSS DOMESTIC PRODUCT (GDP) AT FACTOR COST, 1973-1983, MONETARY ECONOMY

YEAR	Unit price/ Long Ton ($)	Total Output		GDP at Factor Cost (Current Prices ($million)	Percent OF GDP
		Volume million long ton	Value $ (million)		
1973	7.81	23.19	196.7	375.2	52.4
1974	10.40	25.3	262.2	459.1	57.1
1975	16.22	18.1	293.6	559.1	52.5
1976	16.03	20.5	328.7	560.8	58.6
1977	15.72	17.4	273.5	633.2	43.2
1978	13.19	20.8	274.4	670.0	41.0
1979	14.57	19.9	290.0	766.3	37.8
1980	18.03	17.2	310.2	800.8	38.7
1981	15.72	20.7	325.4	764.9	42.5
1982	18.97	18.0	311.1	799.8	38.9
1983	17.03	15.5	267.3	730.7	36.6

Source: Ministry of Planning and Economic Affairs, Economic Survey of Liberia, (1975, 1976, 1981, 1982, 1983).

FIGURE I

Iron Ore Revenue Performance (1973 - 1983)

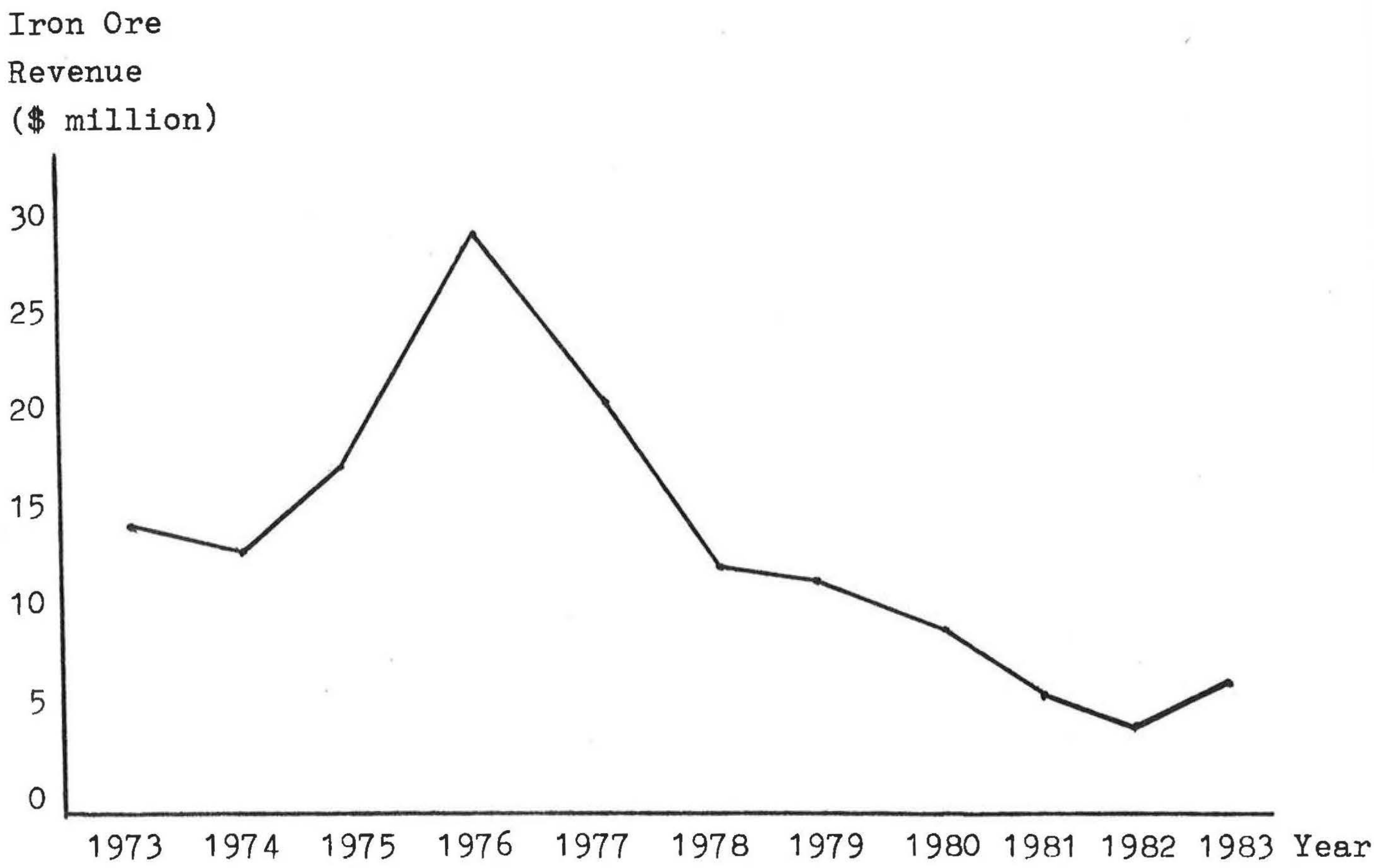


FIGURE 2

EXTERNAL TRADE BALANCE

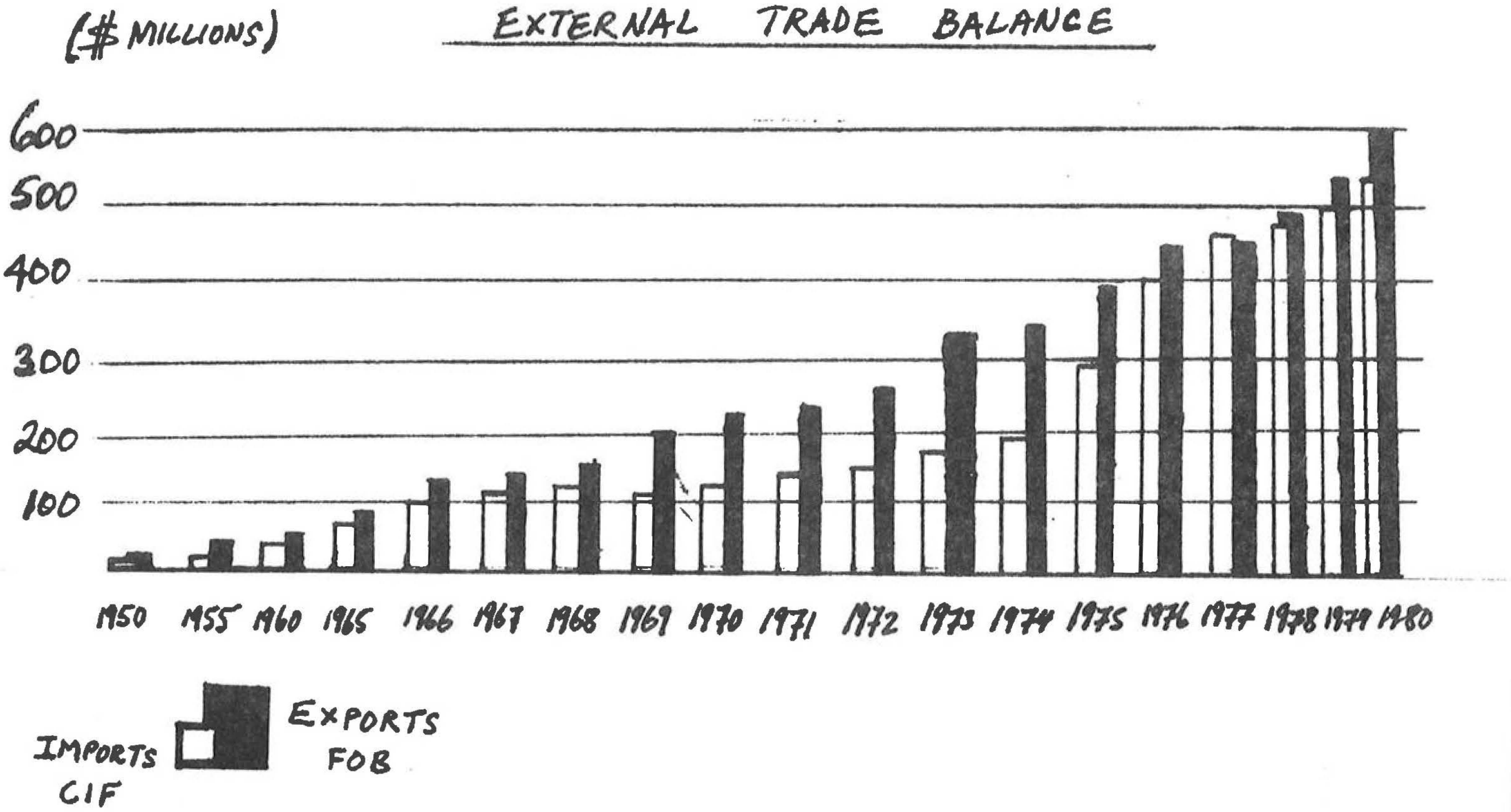
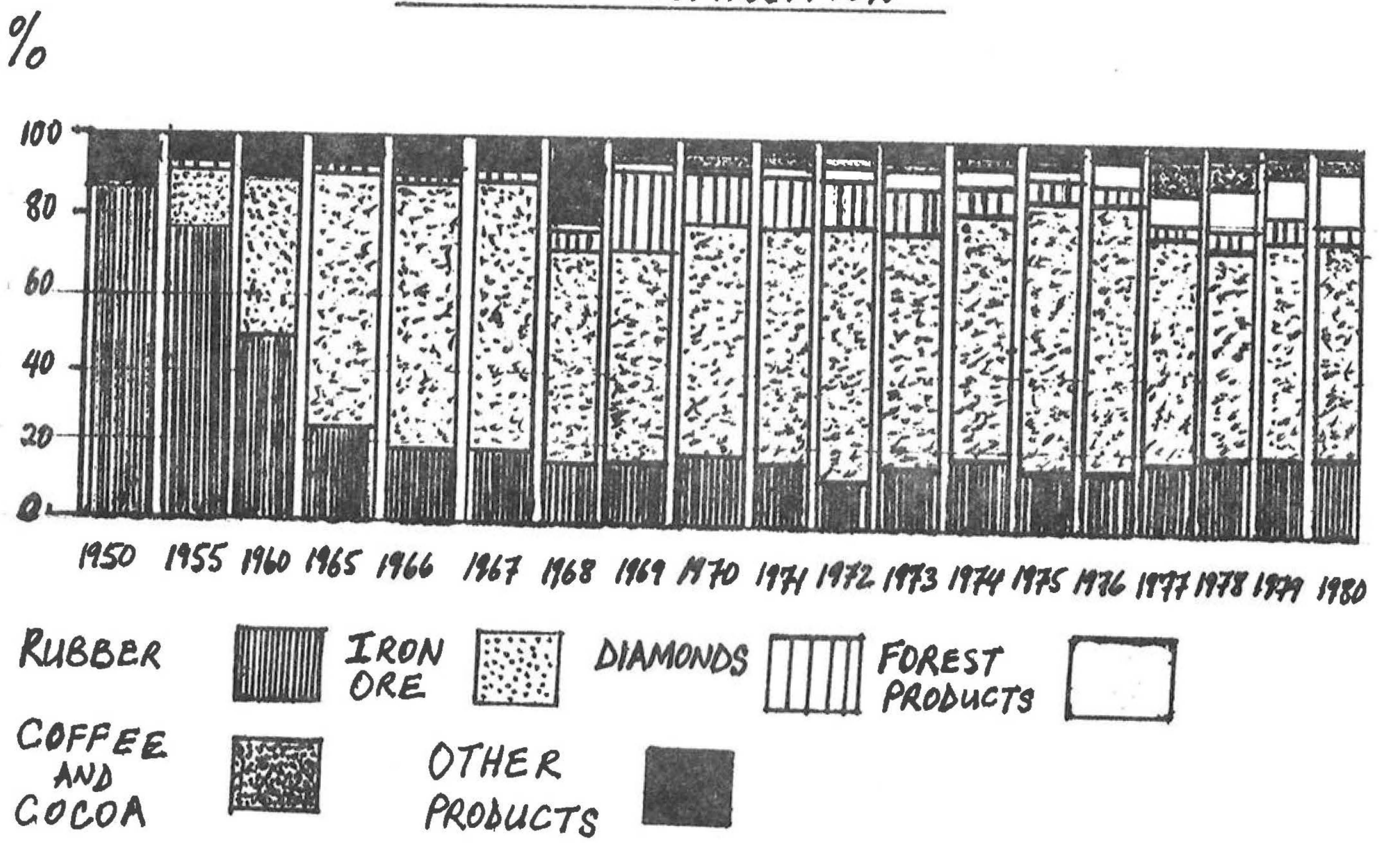


FIGURE 3

EXPORT COMPOSITION



SOURCE: PLANNING AND DEVELOPMENT ATLAS, REPUBLIC OF LIBERIA, 1983, P. 22

TABLE 2

SURPLUS GENERATED FROM THE IRON ORE MINING INDUSTRY, 1951-1977

Company	Period	Total Contribution to the Government of Liberia ($ Million)	Net Profits of the mining companies ($ Million)
LMC	1951-1977	83,994	139,377
NIOC	1962-1978	2,165	9,595
LAMCO	1963-1977	111,425	1,291,593,000.00
BMC	1965-1977	36,623	32,870

Source: Kraaij, F.P.M. van den "Open Door Policy of Liberia", Bremen 1983, pp. 173, 193, 232, 239.

TABLE 3

AVERAGE MONTHLY WAGES AND SALARY IN THE IRON ORE MINING INDUSTRY (1980-1983)					
Personnel Category	$ '000 per month				Growth Rate 1982-1983 (percent)
	1980	1981	1982	1983	
Expatriate Staff	3,061.48	3,142	3,292	3,455	5,0
Liberian Staff	953.29	1,006	1,011	1,052	4.1
Workers	281.96	287	305	353	15.7

Source: Ministry of Planning and Economic Affairs, Economic Survey of Liberia, 1982 and 1983.

APPENDIX TWO

FOOTNOTES CHAPTER ONE

1) Kraaij, F.P.M., van der, "The Open Door Policy of Liberia: An Economic History of Modern Liberia", Reihe F, Bremer African Archin, Band 17/1, Bremen 1983, Im Selbstverlag des Museums, p. XIII.

2) Carlsson, Jerker, "The Limits to Structural Change - A Comparative study of foreign direct investments in Liberia and Ghana 1950-1971", Scandinavian Institute of African Studies, Uppsala, 1981 p. 17.

3) Clower, Robert, W., et all, "Growth Without Development: An Economic Survey of Liberia", Northwestern University Press, 1966, p. 3.

4) Kraaij, F.P.M., van der, "The Open Door Policy of Liberia", p. I.

5) Ministry of Planning and Economic Affairs, Economic Survey of Liberia, 1983, Monrovia, Liberia, p. 187.

6.) Ministry of Planning and Economic Affairs, Second National Socio-Economic Development Plan. July 1981-June 1985, Monrovia, Liberia, p. 1.

7.) The Courier No. 87 - September - October 1984, Brussels, Belgium, p. 11.

8.) Kraaij, F.P.M., van der, "The Open Door Policy of Liberia", p. I, II and III.

9.) Clower, Robert, W., et all, "Growth Without Development", p. 1.

10) Kraij, F.P.M., van der, "The Open Door Policy of Liberia"

11) Carlsson, Jerker "Transnational Companies in Liberia", p. 4.

12.) Ibid., p. 4-5

13) Kraaij, F.P.M., van der, "The Open Door Policy of Liberia", p. III.

14) Ibid., p. VI & X.

15) Ministry of Planning and Economic Affairs, National Socio-Economic Development Plan, 1976-1980, 1976, p. 1.

16) Ibid, p. 2.

17) Ministry of Planning and Economic Affairs, Second National Socio-Economic Development Plan, 1981-1985, Monrovia, Liberia, 1981, p. 1.

18) Ministry of Planning and Economic Affairs, Economic Survey 1983, Monrovia, Liberia, December 1984, p. 1.

19) Ibid., p. 46.

20) Ibid., p. 8.

21) Lanning G. & Mueller M., "Africa Undermined", p. 257.

22) Kraaij, F.P.M., van der, "The Open Door Policy", pp. 139 & 162.

23.) Ibid., p. 163.

24.) Coale, jr. William Davis, "West German Transnationals in Tropical Africa: The case of Liberia and the Bong Mining Company", Published Dissertation, Boston University, Boston, U.S.A., 1977, p. 60

25.) Kraaij, F.P.M., van der, "The Open Door Policy of Liberia", p. 163.

26) Ibid., p. 164.

27) Ibid, p. 164.

28) Coale, jr., William Davis, "West German Transnationals in Tropical Africa", p. 61.

29) Kraaij, F.P.M., "The Open Door Policy of Liberia", p. 164.

30) Clower, Robert W., et al "Growth Without Development", p. 198.

31) Kraaij, F.P.M., van der, "The Open Door Policy of Liberia", p. 167.

32) Ibid., 167.

33) Clower, Robert, W., et al "Growth Without Development", p. 200.

34) Ibid., p. 201.

35) Kraaij, F.P.M., van der, "The Open Door Policy of Liberia", p. 168.

36) Clower, Robert, W., et al "Growth Without Development", p. 210.

37) Kraaij, F.P.M., van der, "The Open Door Policy of Liberia", p. 204.

38) Clower, Robert, W., et al "Growth Without Development", p. 211.

39) Kraaij, F.P.M., van der, "The Open Door Policy of Liberia", p. 205.

40) Clower, Robert, W., et al "Growth Without Development", p. 211.

41) Ibid., p. 204.

42) Ibid., p. 204.

43) Ibid., p. 203.

44) Ibid., p. 204.

45) Ibid., p. 205.

46) Kraaij, F.P.M. van der, "The Open Door Policy of Liberia", p. 191.

47) Ibid., p. 235.

48) Ibid., p. 236.

FOOTNOTES CHAPTER TWO

1) Clower, Robert et al Growth Without Development", Northwestern University Press, U.S.A., 1966, p. 200.

2) Hinzen, Eckhard & Robert Kappel "Dependence, Underdevelopment and Persistent Conflict on the Political Economy of Liberia". Bremen, 1980, p. 271.

3) Ibid., p. 281.

4) Ibid, p. 280-281.

5) Carlsson, Jerker, "The Limits to Structural Change", Scandinavian Institute of African Studies, U.ppsala, Sweden, 1981, pp. 97-98.

6) Lanning, Greg & Mueller Marti, "Africa Undermined" Penguin Books, 1979, p. 263.

7) Carlsson, Jerker, "Transnational Companies in Liberia", Uppsala, Sweden, 1977, p. 23.

8) Kraaij, F.P.M., van der "Open Door Policy of Liberia", Bremen, 1983, p. 171-172.

9) Ibid., p. 175-176.

10) Carlsson, Jerker "Transnational Companies in Liberia", Scandinavian Institute of African Studies, Appsala, Sweden, 1977, p. 20-23.

11) Annual Report, 1984, Liberian Iron Ore Limited (LIO), p. 2.

12) Kraaij, F.P.M. van der "The Open Door Policy of Liberia", Bremen, 1983, p. 210-211.

13) Lanning Greg et al "Africa Undermined", Penguin Books 1979, p. 267.

14) Henskel, Dieter & Fritz Voigt "Socio-Economic Impacts of private Investments in Liberia "Gesellschaft fur Wirtschafts- und verkehreswissenschaftliche Forschung e.v. Bonn, 1979, p. 5.

15) Carlsson, Jerker, "The Limits to Structural Change" Uppsala, Sweden, 1981, p. 287-289.

16) Ibid., p. 286.

17) Kraaij, F.P.M., van der, "The Open Door Policy of Liberia", Bremen, 1983, p. 171.

18) Carlsson, Jerker "The Limits to Structural Change", Uppsala, Sweden, 1981, p. 286.

19) Liberia Iron Ore Limited (Ltd.), Annual Report, p. 2.

20) Carlsson, Jerker, "The Limits to Structural Change", Uppsala, Sweden, 1981, p. 291.

21) Kraaij, F.P.M., van der "The Open Door Policy of Liberia", Bremen, 1983, pp. 208-210, 222.

22) Ibid., pp. 238-242.

23) Ibid., p. 241.

24) Ibid., Annex 12, pp. 579-581

25) Ibid., Annex 12, pp. 582-584.

26) Ibid., pp. 176-177.

27) Ibid., pp. 587-589.

28) Ibid., pp. 589-590.

29) Ibid., pp. 590-592.

30) Coale, jr., William Davis, "West German Transnationals in Tropical Africa",Ann Arbor, Michigan, U.S.A., 1977, pp. 75-77.

31) Ibid., p. 77.

32) Kraaij, F.P.M., van der "The Open Door Policy of Liberia", Bremen, 1983, Annex 12, pp. 579-580.

33) Ibid., pp. 581-583.

FOOTNOTES CHAPTER THREE

1) Banks, Ferdinand, E., "Resources Policy", June 1979, p. 79.

2) Sideri, S. & S. Johns, "Mining for Development in the Third World", Pergamon Press, 1980, p. 124.

3) Banks, Ferdinand E., "Resources Policy", June 1979, p. 97.

4) Sideri, S. & S. Johns, "Mining and Development in the Third World"., Pergamon Press, 1980, p. 4.

5) "Mineral Processing in Developing Countries", A United Nations Study, Graham & Trotman, 1984, pp. 37 & 40.

6) Ibid, p. 37.

7) Ibid., pp. 40-41.

8) Ibid., p. 40.

9) Lanning, Greg & Marti Mueller, "Africa Undermined", Penguin Books, 1979, p. 485.

10) Ibid., p. 485-486.

11) Khindaria, Brij, "Iron Ore Price Struggle", Financial Times, Wednesday, April 25, 1979.

12) Ibid.

13) Sideri, S. & S. Johns "Mining for Development in the Third World", Pergamon Press, 1980, p. 143.

14) Ibid., pp. 144-145.

15) UNCTAD Secretariat, "Consideration of International Measures on Iron Ore," 1984, p. 18.

16) Lanning Greg & al, "Africa Undermined", Penguin Books, 1979, p. 490.

17) Eckhart, Hinzen & Robert Kapple, "Dependence, Under-development and Persistent Conflict on the Political Economy of Liberia", Bremen 1980, pp. 276-278.

18) Ministry of Planning & Economic Affairs, "Economic Survey of Liberia", 1983, Monrovia, Liberia, p. 34.

20) Eckhart, Hinzel & al, "Dependence, Underdevelopment & persistent Conflict on the Political Economy of Liberia", Bremen 1980, p. 270.

21) Ministry of Planning and Economic Affairs, "Republic of Liberia, Planning and Development Atlas", Monrovia, Liberia, 1983, p. 22.

22) Ibid., p. 22.

23) Ibid., p. 22.

24) Ibid., p. 22.

25) Ministry of Planning and Economic Affairs, "Economic Survey of Liberia, 1983, Monrovia, Liberia, pp. 8-9.

26) Carlsson, Jerker "Limits to Structural Change", Uppsala, 1981, p. 54.

27) Ministry of Planning and Economic Affairs, "Economic Survey of Liberia, 1983, p. 10.

28) Carlsson, Jerker "Limits to Structural Change", Uppsala, 1981, p. 52.

29) Ministry of Planning and Economic Affairs "Economic Survey of Liberia, 1983, p. 17.

30) Carlsson, Jerker "Limits to Structural Change", Uppsala, 1981, pp. 138 & 139.

31) Sideri, S. & S. Johns, "Mining for Development in the Third World", Pergamon Press, 1980, pp. 234-235.

32) Ibid., pp. 232, 233, 236 & 239.

FOOTNOTES CHAPTER FOUR

1) Hinzen, Eckhart & al, "Dependence, Underdevelopment & Persistent Conflict on the Political Economy of Liberia", Bremen, 1980, pp. 314-315.

2) Ministry of Planning and Economic Affairs, "Economic Survey of Liberia, 1983, Monrovia, Liberia, 1984, p. 67.

3) Heuskel, Dieter & al "Socio-Economic Impacts of Private Investments in Liberia", Bonn, 1979, p. 15.

4) Hinzen, Eckhart & al, "Dependence, Underdevelopment & Persistent Conflict on the Political Economy of Liberia", Bremen 1980, p. 315.

5) Ministry of Planning and Economic Affairs, "Economic Survey of Liberia", 1983, Monrovia, Liberia, 1984, pp. 67-68.

6) Sideri, S. & al, "Mining for Development in the Third World", Pergamon Press, 1980, pp. 39-40.

7) Ibid., p. 41.

8) Ibid., p. 41.

9) Heuskel, Dieter & al, "Socio-Economic Impacts of Private Investments in Liberia", Bonn 1979, p. 34.

10) Ibid., p. 34.

11) Weeks, Milton J. "The Rehabilitation Programme of the National Iron Ore Company, Liberia", Erzmetall 37 (1984) Nr. 5, p. 227.

12) Ministry of Planning and Economic Affairs, "Second National Socio-Economic Development Plan, 1981-1985", Monrovia, Liberia, p. 115.

13) Ibid., p. 115.

14) Heuskel, Dieter & al, "Socio-Economic Impacts of Private Investments in Liberia", Bonn 1979, p. 32.

15) Ibid., pp. 32-33.

16) LAMCO NEWS, LAMCO J.V. Operating Company, November 1973, pp. 22-23.

17) Sideri & al "Mining for Development in the Third World", Peergamon Press, 1980, p. 39.

18) Lanning, Greg & al, "Africa Undermined", Penguin Books, p. 486.

19) "Bong Mining Company-Technical Information", Bong Range, Liberia, 1984, p. 6.

20) Ibid., p. 25.

21) Ibid., p. 6.

FOOTNOTES CHAPTER FIVE

1) Smith, David N. & Louis T. Wells, jr. "Negotiating Third-World Mineral Agreements", Ballinger Publishing Company, Cambridge, Mass., 1975, p. 27.

2) Ibid., p. 28.

3) Ibid., p. 29.

4) Ibid., p. 29-30.

5) Ibid., p. 31-32.

6) Ibid., p. 32.

7) Ibid., p. 33-34.

8) Ibid., p. 38.

9) Ibid., p. 38.

10) Ibid., p. 38.

11) Bethlehem Steel was the original owner of the 25% share in LAMCO J.V. Operating Co. which the wholly owned Liberian Company now owns (LIMINCO).

12) Smith & Wells, "Negotiating Third-World Mineral Agreements", Ballinger Publishing Co. Cambridge, Mass. 1975, p. 38-39.

13) Ibid., p. 39.

14) Ibid., p. 39.

15) Ibid., p. 153.

16) Ibid., p. 154, 157.

17) Ibid., p. 166

18) Ibid., p. 167.

REFERENCES

AMIN, SAMIR, Unequal Development, The Harvester Press, Ltd., John Spiers Publishers, Sussex, England, 1976.

Carlsson, Jerker, The Limits to Strucutral Change: A Comparative Study of Foreign Direct Investments in Liberia and Chana 1950-1971, Scandinavian Institute of African Studies, Uppsala, Sweden, 1981

______ Transnational Companies in Liberia - the role of transnational companies in the economic development of Liberia, Research Report no. 37, The Scandinavian Institute of African Studies Uppsala, Sweden 1977.

Clower, Robert W. et al, Growth Without Development: An Economic Survey of Liberia, Northwestern University Press, 1966.

COALE, William Davis, jr., West German Transnationals in Tropical Africa: The Case of Liberia and the Bong Mining Company, Published Dissertation, Boston University, Boston, USA, 1977.

COBBE, James, Governments and Mining Companies in Developing Countries, West-view Press, 1979.

ECKHART, Hinzen and Robert Kappel, Dependence, Underdevelopment and Persistent Conflict on the Political Economy of Liberia, Bremen, 1980.

HELLER, Robert H., International Monetary Economics, Prentice - Hall Inc., Englewood Cliffs, N.J., 1974.

HENSKEL, Dieter and Fritz Voigt, Socio-Economic Impacts of Private Investments in Liberia, Gesellschaft fur Wirtschafts und verkejres-wissenschafliche Forschung e.v., Bonn, 1979.

JACOBSON, Harold K., and Sidjanski, Dusan (eds.), The Emerging International Economic Order, Sage Publications, Beverly Hills/London/New Delhi, 1982.

KAMARCK, Andrew M., "The Economics of African Development", Frederick A. Praeger, Publishers, New York/Washington/ London, 1967.

KHINDARIA, Brij, Iron Ore Price Struggle, *Financial Times*, April 25, 1979.

Kraaij, F.P.M., van der, *The Open Door Policy of Liberia: An Economic History of Modern Liberia*, Bremen, 1983.

LANNING, Greg and Marti Mueller, *Africa Undermined-mining companies and the underdevelopment of Africa*, Penguin Books, 1979.

LAMCO J.V. Operating Company, *Lamco News*, November 1973.

LIBERIAN IRON ORE LIMITED (LIO), *Annual Report*, 1984.

MIKESELL, Raymond F., *New Patterns of World Mineral Development,* British-North American Committee, USA, 1979.

MINISTRY OF PLANNING AND ECONOMIC AFFAIRS, *First National Socio-Economic Development Plan, 1976-1980*, Monrovia, Liberia, 1976.

____________________ *Second National Socio-Economic Development Plan, 1981-1985*, Monrovia, Liberia, 1983.

____________________ *Economic Survey of Liberia, 1970, 1975, 1980-1983*, Monrovia, Liberia, 1971, 1976, 1981-1984.

NANKANI, G., *Development Problems of Mineral-exporting Countries*, Washington DC, World Bank, 1979.

SIDERI, S. and S. Johns, (eds.), *Mining for Development in the Third World*, Pergamon Press, 1980.

SMITH, David N. and Louis T. Wells, jr., *Negotiating Third-World Mineral Agreements*, Ballinger Publishing Company, Cambridge, Mass., 1975.

SZENTES, Tamas, *The Political Economy of Underdevelopment*, Akademiai Kiado, Budapest, 1976.

UNITED NATIONS, *Mineral Processing in Developing Countries: A United Nations Study*, Graham and Trotman, 1984.

UNCTAD Secretariat, *Consideration of International Measures on Iron Ore*, 1984.