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Employment and multinational enterprises in export processing zones: The cases of Liberia and Ghana

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This is one of the working papers prepared for an ILO study on multinationals and employment in export processing zones (EPZs) undertaken within the framework of the ILO's Multinational Enterprises Programme. Responsibility for the opinions expressed in ILO working papers rests solely with their authors; and the release of the working papers does not constitute an endorsement by the ILO of the opinions expressed in them. The working papers are intended to provide elements for further discussion of the subjects treated.

One working paper for Asia has already appeared on the subject (No. 26) listed in the Annex. Further papers will follow.

CORRIGENDUM

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Page 6 — Table 1.1 should read: GDP is at constant 1971 factor cost.

Page 8 — The sentence beginning para. 3 should read: "Table 1.3 shows the balance of trade position of Liberia between 1970 and 1981."

Page 11 — The first sentence should read: "Indeed the working age population comprising those between the ages of 10 and 46 of the total population in 1981."

Page 16 — The caption of Table 1.1 should read: "Monrovia - Employment Projections."

Page 38 — The word "cassave" in the last but one paragraph should be changed to cassava.

Page 47 — The middle sentence of the paragraph should read: "The accountant is also a university graduate."

Page 50 — The second paragraph, 7th line from the bottom should read: "...direct employment levels will also remain stable."

Page 58 — The third paragraph should read: "...an aluminium rolling plant..."

Page 62 — The first paragraph, 3rd line should read: "...pre-condition..."

Page 65 — The word all should be dropped from the last sentence in paragraph three.

Introduction

Multinational enterprises (MNEs) have played and continue to play important roles in generating direct and indirect employment opportunities in many export processing zones (EPZs) which have proliferated in recent decades in many developing countries. While the employment provided by MNEs in the developing countries, estimated at some 4 million[1] around 1980, is dwarfed by their employment in the industrialised countries (40 million),[2] it is significant both at the macro and micro-economic level. Thus, a study of two MNEs in Nigeria reported that the 10,000 direct employment opportunities provided by the two MNEs would not have existed without their presence.[3] Reports on Asia also register glowing tributes to MNEs and direct and indirect employment generation. As regards export processing zones in particular, in 1979, the Republic of Korea alone registered 31,200 employees in two EPZs while Singapore and West Malaysia registered 105,000 and 73,100 respectively in 1980.[4]

While the generation of direct and indirect employment by MNEs may hold very positive prospects for a number of developing countries, important regional or zonal differences may exist because the intensity of MNEs' enthusiasm for investment in export processing zones in most countries reflects, to a large extent, their expected gains. Thus, where their estimated or expected gains are low, their impact on direct and indirect employment generation may also be minimal. The regional or zonal differences in attracting MNE investment will therefore influence the level of direct and indirect employment opportunities generated by MNEs even in individual countries which offer relatively generous incentives and yet receive poor MNE investment response. Positive trends may be generated over time in such countries but at specific points in time relevant regional or zonal differences cannot be overlooked. Such differences, which are revealed in MNE investment in West Africa, are discussed in this report. In comparison to the evidence from Asia[5] the zones in Liberia and Ghana display a number of particular features which demonstrate that there is no uniform pattern and therefore the difficulty of generalisation arises. For the same reason, the ILO also intends to extend its studies on EPZ to other African countries as well as to countries in Latin America. As far as the African continent is concerned, the present study therefore marks a first and somewhat tentative step.

Objective

The main objective of this study is to evaluate the direct and indirect employment effects of direct MNE investment in EPZs in the two West African countries, Liberia and Ghana.

The quantitative and qualitative aspects of the direct and indirect employment impacts and related issues such as background and characteristics of the EPZ, ownership and origin of foreign investment, sectoral distribution, size groups and type of production of the MNEs in the EPZs, are also explored in detail. To achieve this objective and to enhance its comparability with the earlier study on Asia,[6] the report is structured as follows:

Chapter I - Examination of the background and characteristics of the EPZs.

Chapter II - Analysis of ownership patterns, origin of the foreign investment, sectoral distribution, size groups and type of production in the EPZ enterprises.

Chapter III - Direct employment effects of the MNEs in the EPZs.

Chapter IV - Indirect employment effects.

Chapter V - Working conditions and labour relations in the EPZs.

The summary of the findings are expressed in the conclusion of the study.

Definition of EPZs in Liberia and Ghana

As already mentioned, the export processing zones in Liberia and Ghana exhibit peculiar characteristics and it is important to state clearly the context in which each of them is defined in this study.

In 1971, UNIDO published a paper entitled Industrial free zones as incentives to promote export oriented industries,[7] in which the following definition of an industrial free zone was given: An industrial free zone generally permits the importation of the means of production and equipment, raw material requirements and components free of duty and without customs control, provided that these goods as well as semi-manufactured or finished goods therefrom do not cross the border limit of the free zone into the customs territory. This action of waiving the otherwise collectable customs revenues and various tax revenues by the government is done in consideration of the fact that the host country may secure merits and advantages in other visible and invisible forms through the industrial free zone.

The concepts of industrial free zone (IFZ) as defined by UNIDO and export processing zone (EPZ) which is the more precise and recent usage as referred to in this study, are synonymous. This study would therefore proceed along the lines indicated by the UNIDO definition, but for Liberia additional elements will be added to reflect the local peculiaries. The EPZ concept applied in Monrovia, Liberia, incorporates considerable emphasis on the utilisation of local raw materials by MNEs. Similarly, some limited transfer of the EPZ products to the local market is permissible but appropriate customs controls are often applied at the EPZ gates where special advantages normally cease.

The EPZ in Liberia is therefore conceived as a relatively small area in Monrovia where custom duty-free import of raw materials, component parts or semi-finished products as well as local raw materials serve as inputs for the assembly, processing or manufacturing of various goods by MNEs for export. Nevertheless, limited transfer of the EPZ products is permissible even though the products do not normally enjoy special advantages beyond the EPZ gates.

Tema, on the other hand, is a very peculiar case. It is stricto sensu not an EPZ as defined by UNIDO or as conceived in the case of Liberia. It is an industrial estate which comprises 60 per cent of Ghana's total industrial establishments. The majority of these are import substituting industries. Their products are hardly exported. Instead, they are meant to be substitutes for finished goods which were formerly imported. But within this industrial milieux is located a giant MNE, the Volta Aluminium Co. Ltd. (VALCO). VALCO enjoys custom-free imports of raw materials and component parts which serve as inputs for the manufacture of aluminium ingots for export. VALCO relies predominantly on other foreign inputs such as capital and managerial skills and on the export market for the sales of the bulk of its products. There are no restrictions on VALCO's foreign ownership patterns, foreign exchange earnings or repatriation of dividends. VALCO enjoys very generous tax exemptions or tax holidays. its imports and exports are tax free. Therefore, in every sense, VALCO operates like an EPZ multinational enterprise. It is in a class of its own and very different from all other industries in Tema. For Ghana, VALCO is the main focus of study even though relevant comparisons will be made with the other enterprises in Tema.

Notes

[1] ILO: Employment effects of multinational enterprises in developing countries (Geneva, 1981).

[2] ILO: Employment effects of multinational enterprises in industrialised countries (Geneva, 1981).

[3] "Multinationals, technology and jobs", ILO Information, Vol. 18, No. 2, May 1982.

[4] Rudy Maex: Employment and multinationals in Asian export processing zones, Multinational Enterprises Programme Working Paper No. 26 (Geneva, ILO, 1983).

[5] ibid.

[6] ibid.

[7] UNIDO: A feasibility study of planning, establishment and operation of an industrial free zone in Monrovia, Liberia. Final Report, Vol. 1, April 1975.

CHAPTER I

Background and characteristics of export processing zones (EPZs) in Liberia and Ghana

The enthusiasm surrounding the establishment of export processing zones in most developing countries symbolises a direct response to the need to surmount chronic unemployment, job creation, labour force retention, balance of payments and foreign exchange problems which are endemic in these countries. Even though the prevalence of these problems to a large extent constitute the driving force behind the establishment of the export processing zones in developing countries in general, the justifications for the establishment of the export processing zones in Liberia and Ghana exhibit striking differences which are characteristic of the diverse local problems and concerns in both countries.

Establishment and economic background of the zone in Liberia

The establishment of the export processing zone in Liberia can be seen as one attempt by the Government of Liberia to help to resolve the growing conflict between a declining national income and foreign exchange earnings, and employment generation, training of skills and retention of the existing labour force. These problems continue to plague the national development process in Liberia as will be discussed in the following.

National income

The Gross Domestic Product (GDP) at current factor cost was valued at US$422.3 million in 1973. This figure represented a growth of 10.5 per cent over the 1972 figure,[1] and also corresponds with the average annual growth rate of 4.2 per cent of the Liberian economy between 1970 and 1974.

After 1974, there was a consistent decline in the national income growth of Liberia. The average annual real growth rate of the economy declined to less than 1 per cent between 1974 and 1978.[2] In 1980 and 1981 GDP declined by some 5 per cent in real terms. Table 1.1 shows the trend for the nominal and real GDP between 1975 and 1981. The GDP for 1981 in the monetary economy was valued at US$34 million. This represented a 5 per cent decline compared to 1980 when GDP at constant 1971 factor cost amounted to US$366.2 million. The statistics on hand indicate that the productive base of the monetary economy of Liberia has been shrinking when measured in terms of constant 1971 prices.[3]

Table 1.1. Trends in Nominal and Real GDP, 1975 - 1981
(in million US $)

Monetary Economy	1976	1977	1978	1979	1980	1981
GDP at Current Factor Cost	568.6	633.2	670	766.3	800.8	715.0
GDP at Constant 1871 Factor Cost	357.2	354.2	368.2	384.4	366.2	348.0
GDP Deflator (Index)	159.4	178.8	182.0	199.3	218.7	205.5
Annual Change (%)						
GDP at Current Factor Cost	1.7	11.4	5.8	14.3	4.5	-10.7
GDP at Constant 1971 Factor Cost	4.0	-0.8	3.9	4.4	-4.7	-5.0
GDP Deflator	-12.1	12.2	1.8	9.5	9.7	-6.0

Source: Economic Survey of Liberia, 1981.

In nominal terms, the trend appears similar. The GDP at current factor cost in 1981 was estimated to have declined by 10.7 per cent from US$800 million in 1980 to US$715 million in 1981. This is quite consistent with the fluctuating trend especially in 1976, 1978 and 1980 when GDPs were relatively low compared to 1977 and 1979. The major factor responsible for the decline in the GDP at current prices in 1981 was a 12.3 per cent decrease in export prices of major export commodities such as iron ore, rubber and forest products. This was also responsible for the 6 per cent decline in the GDP deflator.[4]

The industrial origins of GDP, as shown in table 1.2, also indicate or emphasise the need to consider positive measures to improve the economy, in particular as regards exports. In nominal terms, the export-oriented sectors of the economy which comprise mainly agriculture, rubber, forestry and iron ore, recorded a negative growth of 20 per cent in 1981. The domestic-oriented sectors comprising manufacturing, construction and government services also registered a negative growth of 4.8 per cent in 1981.[5]

Table 1.2. GDP at Factor Cost by Industrial Origin
1976 - 1981

Activity	1977 %	1978 %	1979 %	1980 %	1981 %
Constant (1971) Prices					
Agriculture	15.2	16.0	16.0	15.6	15.2
Rubber	6.4	5.8	5.2	5.2	6.5
Forestry	4.5	5.7	5.9	5.7	3.8
Mining and Quarrying	26.0	24.9	25.3	27.4	32.0
Iron Ore	24.8	23.6	24.0	26.2	30.2
Manufacturing	8.1	8.2	8.4	6.4	n.a.
Construction	5.3	5.9	5.1	3.7	n.a.
Government Services	9.7	9.9	10.1	9.8	12.2
	100.0	100.0	100.0	100.0	100.0
Current Prices					
Agriculture	15.4	29.7	19.7	20.2	19.9
Rubber	6.4	6.4	7.9	7.8	7.6
Forestry	4.0	4.8	5.6	6.0	4.5
Mining and Quarrying	24.6	17.7	17.9	19.4	22.2
Iron Ore	23.2	16.0	15.5	16.9	19.5
Manufacturing	8.0	7.3	11.5	9.8	n.a.
Construction	7.0	6.8	8.5	4.1	n.a.
Government Services	11.3	11.3	13.4	15.7	26.3
	100.0	100.0	100.0	100.0	100.0

Source: Computed from Economic Survey of Liberia, 1981.

Besides, the contribution of manufacturing to the total GDP at both constant 1971 and current prices is relatively meagre. In 1980, for example, the share of the manufacturing sector in the total GDP at constant prices was only 6.4 per cent and 8 per cent between 1977 and 1979. At current prices, not only are the shares of the manufacturing sector in the total GDP insignificant, but the levels also fluctuated between 1977 and 1980, symbolising unstable contributions of manufacturing to the total GDP.[6]

It is important to note that manufacturing activity between 1977 and 1981 was classified as an activity oriented towards the domestic market. This means that the manufacturing sector of the economy hardly contributes to the export economy of Liberia. Yet the manufacturing sector could aid the export sector of the economy which at the moment exhibits balance of trade and balance of payment difficulties.

Balance of trade

Foreign trade is the predominant element of the economy of Liberia. In 1981, export earnings expressed as percentage of GDP at current market prices amounted to 62.9 per cent compared to imports which were estimated at 56.7 per cent.[7] Most of the necessities of life, especially for the urban population, are imported and these are paid for by means of large outflows of the main primary export commodities such as iron ore, rubber and forest products. The burden of repaying large foreign loans also rests upon the export sector. Thus the economy of Liberia is highly sensitive to changes in foreign trade of primary commodities and prospects for the economy are closely linked with the performance of the foreign trade sector.

Table 1.3 shows the balance of trade position of Liberia between 1970 and 1980. The economy of Liberia experienced a relatively healthy balance of trade between 1970 and 1974 when, as already mentioned, the average real growth rate of the economy was 4.2 per cent. The balance of trade in 1973 was particularly remarkable. But between 1974 and 1978, the average annual real growth declined to less than 1 per cent. Correspondingly, the balance of trade performance between 1974 and 1978 was particularly poor. The worst situation was in 1977 when the economy registered a US$ 16.1 million balance of trade deficit. The downward trend continued into 1981 when export earnings declined by 11.9 per cent from US$600.5 million in 1980 to US$529.2 million in 1981. As a result, the balance of trade declined by 22.2 per cent, from a trade balance of US$66.6 million in 1980 to US$51.8 million in 1981.[8] The balance of payments also reflects similar difficulties.

Balance of payments

Table 1.4 shows the balance of payments position of the Liberian economy between 1978 and 1981. The balance of payments which were in consistent deficit during the period declined by 37.4 per cent from US$104.4 million in 1980 to US$65.4 million in 1981 as a result of increase in transfers to the public sector and maritime revenue and not as a result

Table 1.3. Value of External Trade and the Balance of Trade 1970 - 1981 (in million US $)

Year	Total Trade	Exports			Imports	Balance of Trade
		Total	Domestic	Re-exports*		
1970	385.6	235.9	230.1	5.8	149.7	86.2
1971	409.0	246.6	239.6	7.0	162.4	84.2
1972	448.5	269.8	263.7	6.1	178.7	91.1
1973	517.5	324.0	318.5	5.5	193.5	130.5
1974	688.6	400.2	394.6	5.6	288.4	111.8
1975	725.6	394.4	388.5	5.9	331.2	63.2
1976	856.2	457.0	451.0	6.0	399.2	57.8
1977	910.9	447.4	440.4	7.0	463.5	-16.1
1978	967.3	486.4	477.5	8.8	480.9	5.5
1979	1,043.1	536.6	525.9	10.5	506	30.1
1980	1,134.3	600.4	574.8	25.6	533.9	66.5
1981	1,006.6	529.2	516.7	12.5	477.4	51.8

* Means exports of foreign merchandise, which represent commodities of foreign origin which have entered Liberia as imports and which at the time of exportation, are substantially the same condition as when imported.

Source: External Trade of Liberia, Export, 1981.

of export of manufactures. Exports other than raw materials account for only 2 per cent of the total value.[9] There was an obvious need to maintain a positive trade balance and overcome the current balance of payment deficits by promoting vigorous export strategies in Liberia.

All these characteristics of the economy of Liberia also had a serious impact on the employment situation in the country - a problem which attracted attention as well as demanding alternative courses of action to improve the situation.

Table 1.4. Balance of Payments, 1978 - 1981
(in million US $)

	1978	1979	1980	1981
Exports	500.0	553.6	613.5	540.7
Imports of Goods	-548.6	-587.4	-614.0	-549.0
Factor Payments	-95.9	-87.7	-83.7	-72.0
Workers Remittances	-32.5	-35.0	-32.0	-33.0
Interest - Public Sector	-10.8	-13.7	-23.9	-20.2
Transfers - Public Sector	16.0	23.0	25.0	48.0
Maritime Revenue	13.6	11.7	10.7	20.1
Current Balance	-158.2	-135.5	-104.4	-65.4

Source: According to the Economic Survey of Liberia (1981), the open nature of the economy and the absence of exchange controls make it difficult to provide accurate balance of payments statistics for Liberia. Figures in Table 1.4 are therefore rough estimates.

Labour and employment

The total population of Liberia which was estimated at 1,971,636 in 1981, is growing at the rate of 3 per cent per annum.

Table 1.5 shows the distribution of this population by sex and age. The population is relatively young. About 64 per cent of the total population is between the ages of 5 and 24 years. Besides, about 47 per cent of the total population is under 15 years of age. This indicates the prospect of a dramatic expansion of the labour force in the next few years.[10]

Table 1.5. Distribution of Population by Sex and Age

Age Group	Both Sexes	Males	Females
0 - 9	681,660 (34.6)	344,213 (17.5)	337,447 (17.1)
0 - 14	919,755 (46.6)	464,893 (23.6)	454,862 (23.1)
5 - 24	902,043 (45.7)	455,922 (23.1)	446,121 (22.6)
10 - 64	1,232,387 (62.5)	622,253 (31.6)	610,134 (30.9)
15 - 64	994,292 (50.4)	501,573 (25.4)	492,719 (25.0)
65+	56,720 (2.9)	26,450 (1.3)	30,270 (1.5)

* Figures in brackets are percentages of the total population.

Source: Economic Survey of Liberia, 1981.

Indeed the working age population comprising those between the ages of 10 and 64 years was estimated at 1,232,387 or 62.5 per cent of the total population in 1981.[11] The total labour force supply, that is, the working age population, less women in households and students, was estimated at 742,522 in 1981. The size of the working population in 1981 was estimated at 649,500 or 87.5 per cent of the total labour supply. This meant that 93,522, or 12.5 per cent of the total labour force, were unemployed. This is in fact a gross simplification because the distribution of unemployment in Liberia is highly skewed (taking account of factors such as sex, age and regional distribution).

Monrovia, which is the capital city of Liberia and the major centre of the country's economy, registered a high unemployment rate of 17.9 per cent even in 1974, as indicated in table 1.6. Nearly two-thirds of the unemployed were men. The unemployment rate for men was 16.3 per cent while 21.9 per cent of women were unemployed. Also, about 90 per cent of the unemployed, both men and women, had been in Monrovia at least two years and many of these had been born in the city. Thus, rural to urban migration can be said to account for a relatively small share of the unemployment problem in Monrovia at this point in time.[12]

With the change of government on 12 April 1980, however, the above pattern has significantly altered. Monrovia has experienced a large influx of migrants into the city. Thus, by 1981, Monrovia registered an estimated unemployment rate of 58.5 per cent - a rate which was consistent with the declining economy and the resultant limited job opportunities.[13] This may not be surprising because, compared to the rest of Liberia, Monrovia not only constitutes the most magnetic centre for employment of labour but also inhabits a substantial pool of industrial labour.

Table 1.7 compares the industrial distribution of the labour force of Monrovia with that of Liberia as a whole. Monrovia employs a higher proportion of workers in manufacturing, public utilities, wholesale and retail trade, and business services on the basis of its total share of the national workforce. The activities that by-pass the capital are the three main areas of foreign concessions (rubber, iron ore and forest production) and the large agricultural base of the country. Within Monrovia itself, employment is heavily oriented towards government and retailing. These two sectors employ more than 50 per cent of the workers. Although Monrovia accounts for more than one-third of the country's manufacturing activity, only 4 per cent of the city's workforce are employed by manufacturing enterprises.[14]

The limited manpower base and skills existing especially in the manufacturing sector in Liberia, and Monrovia in particular, are reflected in the relatively low educational attainment of the labour force in Monrovia. Table 1.8 shows educational attainment of the labour force in Monrovia. About one-third of the Monrovia labour force had no formal education. Over 70 per cent had less than 12th grade education. An almost identical percentage of employed and unemployed persons were illiterate. Also, education up to grade 11 did not seem to improve job prospects judging from the higher percentage of unemployed than employed possessing up to grade 11 education. Nevertheless, beyond grade 12

Table 1.6. Monrovia Labour Force by Sex, 1974
('000's)

Sex	Not in the Labour Force	Labour Force	Labour* Force Participation Rate (%)	Employed	Unemployed	Unemployment** Rate (%)
Male	16	39	70	32	7	16.3
Female	31	15	33	12	3	21.9
Total	47	54	53	44	10	17.9

* The Labour Force participation rate is the proportion of population who are either employed or unemployed. Thus the figure of 53 per cent for both sexes is derived as follows:

$$\frac{54{,}000}{54{,}000 + 47{,}000} \times 100$$

** The unemployment rate is the porportion of persons in the Labour Force who are reportedly looking for work. Thus 17.9 per cent for both sexes is derived as follows:

$$\frac{10{,}000}{54{,}000} \times 100$$

Source: Indicative Manpower Plan for Liberia (1972 - 1982).

education, the expected positive correlation between employment and level of education is apparent.[15] Given the demands of modern commercial and manufacturing activities, it is apparent that there is a limited educated skilled manpower in Liberia.

Correspondingly, the earnings of employed persons are relatively low. The labour force survey carried out by the Ministry of Planning and Economic Affairs Manpower Division revealed that 34 per cent of the labour force earned less than US$60 per month. Thirty-one per cent earned between

Table 1.7. Employment Share in Monrovia and Liberia

	Monrovia % Share of Employment Compared to Liberia	Monrovia Industrial Structure
Agriculture, Hunting, Forestry and Fishing	9	4
Agriculture and Livestock Production	-	2
Mining and Quarrying	3	1
Manufacturing	34	4
Electricity, Gas and Water	53	-
Construction	33	3
Wholesale and Retail Trade	56	18
Transport, Storage and Communications	4	5
Finance, Insurance, Real Estate and Business Services	78	2
Community, Social and Personal Services	53	45
Others	39	16
		100

Source: Monrovia Urban Development Study. Inception Report for Government of Liberia, July 1977.

US$60 and US$115 per month while 27 per cent earned over US$125. At the household level, almost 20 per cent of households reported a total of under US$20 per month while 27.9 per cent received no cash income at all. The median household income was US$65 per month with only 11 per cent of households reporting incomes in excess of US$3,000 per month.[16]

Table 1.8: Educational attainment of the labour force in Monrovia

Grades	Employed		Unemployed	
	Number	Percentage	Number	Percentage
None	211	33	45	32
1 - 6	65	10	19	13
7 - 11	178	27	51	36
12+	185	30	26	18
Total	639	100	141	100

Source: Indicative Manpower Plan of Liberia (1972-1982).

Economic and employment projections

The existing projections and forecasts are pointers to the persistence of these problems if no action is taken to resuscitate the economy and alleviate the unemployment situation in Liberia. For example, the balance of trade is forecast to move progressively against Liberia with exports growing at 3.3 per cent per annum and imports at 8.5 per cent per annum.[17] The unemployment situation also portrays a similar trend. Table 1.9 shows the level of unemployment in Monrovia for the years 1984 and 1989. By 1989, Monrovia is likely to experience a substantial increase in the level of unemployment.

Table 1.9: Monrovia unemployment projections*

Year	Unemployment level
1984	160 360
1989	210 460

* For the purpose of this projection, it was assumed that 40 per cent of the population will be economically active. Economically active are taken to include all those over the age of 14 except those in the categories of "housekeeping, student or retired".

Source: Monrovia: Urban development study, inception report for the Government of Liberia, July 1977.

That the problems of unemployment could be solved by an improvement in the growth of the Liberian economy is demonstrated by forecasts of employment levels in Monrovia in relation to growth in GDP. These forecasts are shown in table 1.10.

Table 1.10: Monrovia - employment projects*

Year	Assumed 6.9% p.a. growth in GDP	Assumed 4% p.a. growth in GDP
1984	100 960	64 225
1989	122 761	71 960

* This table was prepared on the basis of an annual growth of Gross Domestic Product (GDP) of 6.8 per cent per annum which was the assumed rate for the period 1976-80 in the National Socio-Economic Development Plan. These assumptions appeared higher than Liberia was able to sustain over the period 1964-1974 which were years of rapid economic growth. An alternative growth rate of 4 per cent per annum is therefore postulated. The growth of GDP has been converted to an assumed rate of employment growth by using a coefficient of 0.58. This employment elasticity is consistent with the historical trend in the Liberian economy (1962-1974) and was developed by the International Labour Organisation (ILO) team in their forecasts of manpower needs within Liberia as a whole.

Source: Monrovia - Urban development study, inception report for the Government of Liberia, July 1977.

Table 1.11 also represents the "gap" between the forecast size of unemployment and employment in Monrovia for the years 1984 and 1989.

Table 1.11: Projected employment gap

Year	Assumed 6.9% p.a. growth in GDP	Assumed 4% p.a. growth in GDP
1984	59 400	96 135
1989	87 699	138 500

Source: Monrovia - Urban development study, inception report for the Government of Liberia, July 1977.

These problems of declining economy and unemployment provide sufficient justification for designing alternative strategies for resuscitating the economy and improving the employment situation in Liberia. Responding to these problems, the Ministry of Planning and Economic Affairs in Liberia commented as follows: "The strategy, therefore, for the plan period should be to raise exports and reduce imports. All activities and projects to this end would be worthwhile and desirable."[18] Thus an increase in GDP as a result of increase in the balance of trade could also improve the employment situation, as demonstrated in table 1.11. Even though the projected employment gap increased steadily between 1984 and 1989 on both assumptions, a 6.9 per cent per annum growth in GDP would reduce the projected employment gap considerably as compared to the projected employment gap on the 4 per cent per annum growth in GDP.

Also, the shortfall of jobs in Monrovia is consistent with a shortage of skilled manpower and training, especially at managerial and professional levels. Increased output of professionals from vocational and technical schools is desirable but it is difficult to judge what impact such a training programme could have on the employment situation in Monrovia in the short term. Thus, economic stimulation, job creation and appropriate training of skills on the job offer potential advantages to the improvement of the economy of Monrovia and Liberia as a whole.

The establishment of an export processing zone is one step in this direction. By a national legislative act published on 8 August 1975, the Government of Liberia created the Liberian Industrial Free Zone Authority (LIFZA) which was authorised to develop and manage an export processing zone in Liberia.

Ghana's industrial estate at Tema

The improvement of foreign exchange earnings, employment, training of skills and retention of the labour force were important considerations for the establishment of industries in Tema, as in Liberia. However, unlike the EPZ enterprises in Liberia, all the industries in Tema except the Volta Aluminium Company Limited (VALCO), which is the main focus of study, were established under Ghana's import substitution strategy.

This strategy, which aimed at substituting domestic production for imported goods and hopefully conserving foreign exchange resources, was adopted in the 1960s as an economic development strategy for Ghana. Highly protective barriers and effective rates of protection have resulted from this

strategy. Shortages of foreign exchange, and therefore of industrial raw materials, under-utilisation of production capacity, capital-intensive industrial development and small demand for industrial labour, characterise the economic problems of the country.[19]

Balance of payments

Since the industrialisation drives of the 1960s, Ghana has had to cope with serious foreign exchange problems. These problems can be traced to (i) a structural imbalance between the capacity to earn foreign exchange and requirement of imported items, (ii) a tendency for prices of export commodities to lag behind those of imports, and (iii) the tendency for the foreign debt service burden to far exceed aid flows.[20]

The volume of exports of the principal commodities have steadily declined during the last decade. By 1981, the volume of total exports amounted to only 40 per cent of the 1975 level. Correspondingly, the volume of imports in 1981 dropped drastically to about 51 per cent of the 1970 volume. As a result of the declining volume of imports, there were chronic shortages of imported raw materials and spare parts, which in turn had a detrimental impact on the export sector as well as the domestic production, and also exacerbated inflationary pressures in the economy. Similarly, just as in the case of Liberia, the manufacturing industry's contribution to the GDP declined (from 11 per cent in 1971 to less than 6 per cent in 1981). This also affected capacity utilisation of the import substituting industries.[21]

Capacity utilisation

By 1981, many of the import substituting industries in the Tema industrial estate operated at less than 25 per cent of installed capacity as a result of shortages of imported raw materials and spare parts for machinery, which in turn were the outcome of severe balance of payments problems. Table 1.12 shows the capacity utilisation of import substituting manufacturing enterprises between 1978 and 1980. By 1978, the average capacity utilisation was as low as 40.4 per cent for all manufacturing industries. This fell sharply to 33.1 per cent and 25.5 per cent in 1979 and 1980 respectively. In the case of those industries which depend heavily on imported raw materials, the decline was very precipitous. In 1980, for example, the rate of utilisation of manufacturing capacity was below 21 per cent in textiles, plastic, cosmetic and paper and printing industries. The situation reached a crisis point in 1982, as there was hardly any import of raw materials owing to foreign exchange difficulties.[22] The capacity utilisation in 1982 was therefore expected to be lower than in 1981.

Table 1.12. Manufacturing Industries: Estimated Rate of Capacity Utilisation (per cent)

Sub-Sector	1978	1979	1980
Textiles	40.0	32.0	20.1
Garment	38.1	24.8	29.9
Metals	28.2	26.4	28.4
Electricals	32.1	30.9	17.8
Plastics	10.6	15.2	19.1
Vehicle Assembly	18.4	16.7	n.a.
Tobacco and Beverages	50.0	28.0)	30.0
Food Processing	40.8	22.9)	
Leather	31.3	30.6	20.9
Pharmaceuticals	25.0	17.0	16.8
Cosmetics	33.4	26.6	8.0
Paper and Printing	31.0	28.3	28.4
Non-Metallic Mineral Manufactures	47.0	34.0	29.7
Chemical	42.0	25.8	28.0
Rubber	21.6	18.0	16.4
Wood Processing	36.0	36.4	27.3
Miscellaneous	55.9	65.2	44.9
All Manufacturing Industries	40.4	33.1	25.5

Note: n.a. - Not Available

Source: Economic Survey 1977 - 1980, Central Bureau of Stastistics, Accra, Ghana.

Labour

As a result of the above situation, the labour force in manufacturing declined from 17,000 in 1975 to 9,000 in 1978. Further decline in the capacity utilisation between 1978 and 1982 also necessitated a corresponding decline in the industrial labour force.

Sixty per cent of Ghana's import substituting industrial establishments are located in Tema. They could neither employ new labour nor retain the existing labour force in view of the declining capacity utilisation nor earn or save foreign exchange as had been expected. By all indications, therefore, the import substitution strategy has failed to achieve its desired objectives. VALCO, the giant multinational enterprise, operates within this industrial milieu although it is not itself an import substituting establishment. Thus, it does not experience any of the problems the import substituting industries at Tema are burdened with. Its establishment in Tema is governed by a different set of circumstances.

Volta Aluminium Company Ltd. (VALCO)

Ghana's industrialisation drive in the 1960s required a hydro-electric plant which could provide adequate electrical energy for the industries. The development of such a power project could be economically justifiable if a major power-consuming industry could be established to utilise over 50 per cent of the power under a long-term contract.[23] This requirement was satisfied by VALCO which came into Tema to establish a substantial power-consuming aluminium industry that provided the justification for the construction of the hydro-electric power plant known as the Volta Dam. VALCO is wholly owned by the Kaiser Aluminium and Chemical Corporation (90 per cent) and Reynolds Metals Company (10 per cent) of the United States.

Upon negotiations with the Ghana government, VALCO signed a 30-year contract and agreed to pay for a minimum of 200,000 kw. of electric power during the first 5 years and a minimum of 300,000 kw. for the remaining 25 years. At this level of consumption, which was reached by the end of 1972, VALCO paid US$7 million per year to the Ghana government. Satisfied with the agreement, VALCO invested an initial amount of US$120 million in the construction of an aluminium smelter at Tema which produced 145,000 tons of aluminium ingots by the end of 1972 for export.[24]

The reasons for the establishment of export processing zones in Liberia and Ghana are varied. While the establishment of an EPZ in Liberia was a direct response to the prevailing difficulties the economy of Liberia was experiencing, Ghana's industrial estate at Tema is a reflection of a deliberate import substitution strategy. VALCO, which constitutes a unique enclave multinational enterprise within the industrial estate of Tema was established as a direct response to circumstances which were quite different from the other industries in Tema. VALCO indeed symbolises the economic justification for the development of the hydro-electric power which serves as a solid foundation for the overall development process in Ghana.

Location, description and expected role of EPZs in Monrovia and Tema

Both Liberia and Ghana view their EPZs as necessary or imperative to their national development goals and, in order to play their respective and significant roles in national development, the EPZs are strategically located and equipped with a number of physical facilities.

Monrovia EPZ (LIFZA)

The export processing zone in Monrovia, known officially as the Liberia Industrial Free Zone Authority (LIFZA), occupies a 113-acre tract of land located on Bushrod Island which is one-half of a mile from the free port of Monrovia and approximately two and a half miles from the city of Monrovia. On this tract of land, the LIFZA erected standard factory buildings that are available for lease by interested investors. There are two main types of factory buildings which are distinguished by their size. The large factory building comprises four bays, each occupying an area of 1,300 square metres or a total area of 5,200 square metres. The smaller factory building is divided into two bays each occupying an area of 750 square metres. A warehouse occupying an area of 8,733 square metres is also built at the site to serve as a storage area for raw materials and finished products. LIFZA has also provided infrastructural facilities such as electricity, industrial and drinking water, sewerage disposal, telephone and telex services at the site.

A number of empty plots within the zone are also available to interested investors who wish to construct factory buildings to their own specifications. The zone is wholly fenced-in and equipped with gates, security office, recreation and dining hall, maintenance building, garage and medical centre. An additional 200 acres of land adjacent to this 113-acre zone is available for a future expansion of the EPZ.[25] Figure I shows a map of the zone as described.

LIFZA, Monrovia

The expectations attached to the establishment of the EPZ in Monrovia reflect, to a large extent, the hope of the Government of Liberia to provide solutions to the problems associated with the declining national economy. More specifically, the EPZ is expected to:

(i) attract foreign capital investment;

(ii) generate direct and indirect employment opportunities;

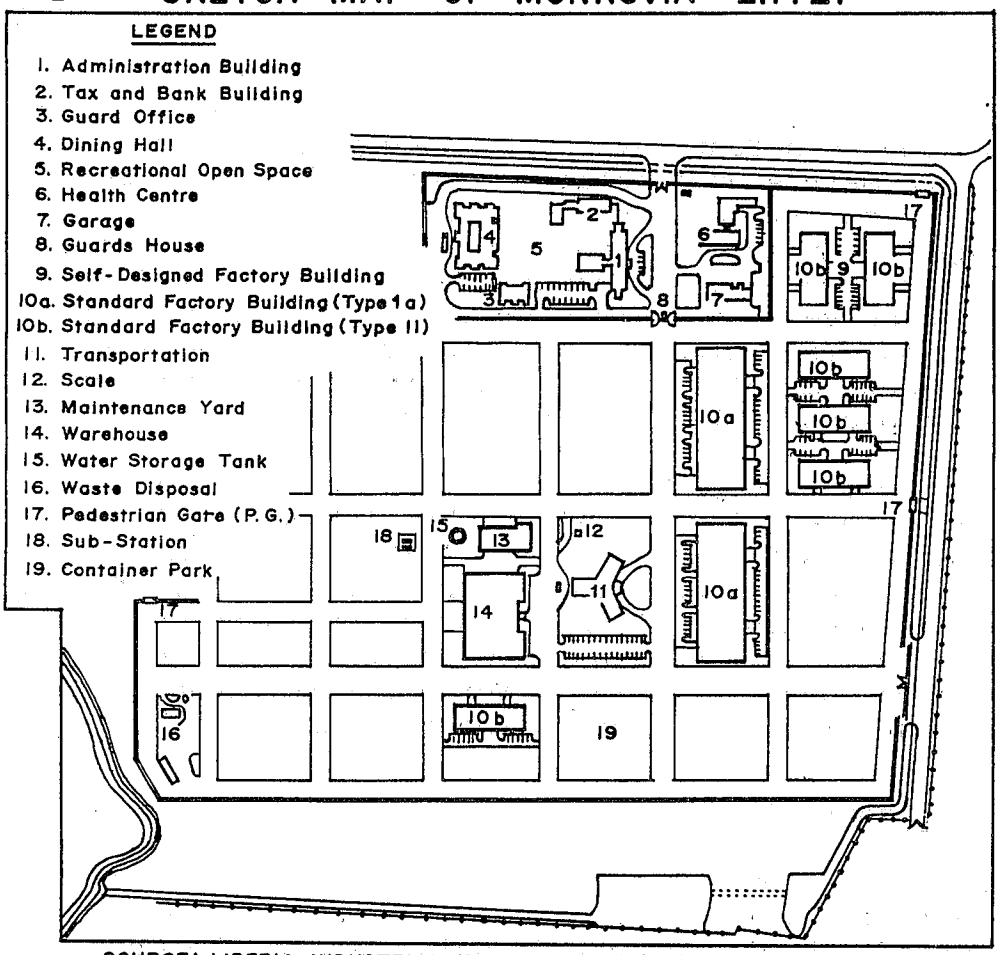
(iii) provide new management and production skills;

(iv) increase export revenues;

(v) create opportunities for processing and exporting local raw materials;

(vi) encourage the transfer of modern industrial technology while causing minimum pollution.

Fig. 1 SKETCH MAP OF MONROVIA E.P.Z.



SOURCE: LIBERIA INDUSTRIAL FREE ZONE AUTHORITY.

Foreign capital investment

For successful operation of the zone as well as improvement of the economy, the EPZ in Monrovia is expected to attract substantial amounts of foreign investment capital and new-industry skills. Small-scale foreign capital investments are discouraged, since a minimum level of US$500,000 is required of all foreign investors as initial capital investment.[26]

Labour

At this minimum level of investment the EPZ enterprises, i.e. the foreign multinationals, are expected to generate direct and indirect employment opportunities within as well as outside the zone, providing a substantial number of skilled and semi-skilled jobs for the available pool of urban labour through on-the-job training schemes. In this connection, it was hoped that effective forward and backward linkages could be established between the EPZ and the enterprises outside the zone in order to improve the economy as a whole.

Management skills

As already indicated, managerial-professional skills, particularly as required by modern manufacturing industry, are very inadequate in Liberia and one of the effective ways of acquiring such a skill is by training on-the-job in modern industries. EPZ enterprises are therefore expected to provide opportunities for the training of such skills.

Export revenues

As has been noted, the export revenues of Liberia are at present mainly derived from export of primary raw materials. By all indications, these revenues are not only inadequate, but are declining fast. Thus, by deliberately promoting additional sources of export revenues, it was hoped to substantially improve the balance of payment position of the economy of Liberia. The EPZ enterprises are expected to perform this vital role since they are export-oriented.

Local raw material processing

Revenues generated from the export of local raw material are quite meagre. More value would therefore be added if they were processed prior to export. In addition, local processing of these raw materials could ensure the establishment of effective forward and backward linkages between the local economy and the zone enterprises. The EPZ enterprises are expected to develop such vital linkages.

Transfer of technology

Modern techniques of production are vital for the training of a skilled labour force and to ensure the competitiveness of manufactured products on the world market. The EPZ enterprises are expected to transfer such modern production technology.

Pollution

It was recognised that the transfer of modern technology could also have adverse effects on the environment through pollution. To avoid this as much as possible, EPZ enterprises are expected to produce minimum pollution directly and indirectly via their linkages with enterprises outside the zone.

These expectations constitute selection criteria for admission of enterprises into the EPZ. Indeed, LIFZA generally ensures, in particular, that all the enterprises which establish in the zone are export-oriented, labour-intensive, have high dollar-earning potential and invest a minimum capital of US$500,000. Some of these expectations are similar to the expectations attached to the establishment of the VALCO at Tema, Ghana. Nevertheless, VALCO is expected to play some other vital roles which do not feature in the expectations attached to the EPZ in Monrovia.

VALCO, Tema

Located at the Tema industrial estate on the southeast coast of Ghana, VALCO is the largest primary aluminium producer in Africa and one of the largest private enterprises in Ghana. The construction of VALCO started in 1964 as a result of agreements signed between the Government of Ghana and VALCO in 1962. These agreements offered mutual benefits and made possible the construction of a hydro-electric power system which became known as the Volta River Project. VALCO's guaranteed purchase of electric power permitted the financing of the hydro-electric dam, and the assurance of a dependable supply of competitively-priced energy made the location of the aluminium plant at Tema feasible.[27]

VALCO occupies an area of 500 acres which is about four times bigger than the area occupied by LIFZA in Monrovia. Owing to its intensive use of the port facilities at Tema, a special provision has been made at the Tema harbour for VALCO to ensure prompt handling of its imports and exports.

This special provision takes the form of building a marginal alumina wharf which is 850 feet long and 80 feet wide. This wharf is attached to the lee breakwater of the main harbour and serves as a docking and unloading point

for ships up to 25,000 tons deadweight, carrying materials and equipment for the aluminium smelter. In addition to a road which runs along the top of the breakwater, serving as a link between the wharf and the smelter, there is a ship-unloading plant onshore. This plant comprises two travelling pneumatic bulk unloading plants with a rated capacity of 200 tons per hour each and a multi-purpose travelling gantry crane with a maximum capacity of 300 tons per hour. These two unloaders and the crane usually unload all bulk materials on to a conveyor belt. The conveyor in turn discharges into six storage silos with a total storage capacity of 21,000 tons of alumina onshore. From the storage silos, motor trucks with heaped capacity of 510 cubic feet, are used to carry the raw materials to the smelter. About ten motor trucks (including one standby) are used to empty the silos at the required rate. This means that one motor truck arriving at the storage silos and one leaving every four and a half minutes for a continuous period of up to 150 hours when the unloading of a 2,500-ton ship would be completed.[28]

Other physical facilities include the supply of an adequate quantity of water. An aluminium plant of 200,000 ton ingot capacity, utilises 12 million gallons of water daily. This amount of water consists of both processing water and cooling water. For VALCO, the processing water is pumped a distance of 30 miles from Kpong Waterworks via a 22-inch diametre water main to Tema. The cooling water is sea water which is available at a distance of 4,000 feet from the aluminium plant. With these facilities VALCO is expected to play vital roles in the economy of Ghana.[29]

VALCO - expected role

The expectations attached to VALCO include:

(i) purchase and payment for the hydro-electric power it consumes in foreign exchange,

(ii) employment and training of labour,

(iii) utilisation of local bauxite deposits,

(iv) encouragement of investment in other sectors of the local economy, and

(v) minimal pollution.

Power payments

The Volta hydro-electric dam which supplies electric power to VALCO was built with a substantial foreign loan. The payment for this loan requires a substantial consumer or customer who would pay for a large proportion of the power generated by the hydro-electric dam. As the very largest consumer, therefore, VALCO was expected to pay for its power consumption in foreign exchange to enable the Government of Ghana to honour the loan repayment. This does not mean that VALCO would stop paying for the power it consumes after the loan repayment. It is expected to continue paying for the power as long as it consumes the power as well as operating in Ghana. VALCO's payments after the loan resettlement are expected to contribute to the foreign exchange earnings of Ghana as well as revenue for the maintenance of the dam. In addition to payment for power, VALCO is expected to contribute to the foreign exchange earnings of Ghana through income tax payments after a specific number of years as stipulated in the terms of the agreement between VALCO and the Government of Ghana.

Employment and training of skills

The size and intensity of VALCO's operation require a large workforce. Thus, VALCO is expected to employ a large number of Ghanaians in its operations. Besides, since an aluminium plant of such a size and complexity is quite new to the Ghanaian environment, VALCO was expected to offer elaborate training facilities to all its employees. In this way VALCO was expected to provide both substantive job opportunities to Ghanaians as well as skills which could be utilised in the operation of aluminium and allied industries and, more generally, to contribute to the development of a skilled labour force in Ghana.

Local bauxite utilisation

About 80 per cent of VALCO's raw material input is alumina which is derived from bauxite. Ghana at the moment has 216 million long tons of bauxite reserves.[30] VALCO was expected to utilise these reserves as its raw material input. Besides, VALCO was expected to expand its operation to include an aluminium rolling mill which could process its ingots into the basic raw material inputs for two aluminium industries, also at Tema, which manufacture aluminium utensils and roofing sheets for the local market. In this way, VALCO could also establish effective forward and backward linkages as well as direct and indirect employment which could provide an essential stimulus to the local economy.

Encouragement of investment in other sectors of the economy

Besides investment in the utilisation of the local bauxite reserves and the aluminium rolling mill, it was hoped that VALCO would plow back some of its profits into investment in other sectors of the local economy, such as agriculture. An investment in large-scale agriculture by VALCO could encourage exports, engender foreign exchange earnings, employment of local labour, as well as improve domestic food production. This could also discourage food imports and therefore conserve foreign exchange.

Pollution

Aluminium industries are notorious for their pollution of the environment in which they operate. An aluminium smelter is a potential source of gaseous fluorides and particulate matter such as alumina, carbon and aluminium. This pollutants can cause considerable damage to vegetation and livestock, particularly to cattle grazing on land subject to heavy fluoride fumigation.[31] VALCO was expected to provide adequate measures against this type of environmental pollution.

Notes

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CHAPTER II

The structure of investment in the export processing zones

The relative importance of multinational investment in the export processing zones in Liberia and Ghana clearly differs. These differences are expressed in the structure of investment incentives, direct foreign investment, number, ownership and origin of investment as well as the sectoral distribution of the EPZ enterprises.

EPZ - Monrovia, and VALCO - Tema Investment incentives and fiscal concessions

The level of investment incentives that national governments usually grant potential foreign investors especially in export processing zones is determined to a large extent by the relative benefits that both parties perceive as resulting from the investment. The prospective investor's perception of the opportunities to be derived from participating in the local economy will influence his attitude towards accepting certain conditions that he may otherwise view as potentially restrictive. Similarly, the host country may be willing to lower its demands for national participation to the extent that it views the foreign investment as essential to its national development goals. With these considerations in mind, both Liberia and Ghana have offered a number of incentives and fiscal concessions to attract foreign investors to participate in the development of the export processing zones.

Monrovia EPZ

The 1975 law which created the Liberia Industrial Free Zone (LIFZA) provides a number of incentives and fiscal concessions both to foreign and local investors who wish to invest in the Export Processing Zone in Monrovia. These incentives include:

(i) 100 per cent exemption from corporate income tax for a minimum of five years with a provision extension depending on the nature and size of investment;

(ii) 100 per cent indefinite exemption from import duty on machinery, equipment, raw materials, spare parts and other supplies;

(iii) 100 per cent indefinite exemption from export duties;

(iv) 100 per cent exemption from rental fees for one year;

(v) no restriction on repatriation of capital, profits and dividends;

(vi) admission of entirely foreign-owned enterprises and expatriate staff;

(vii) assistance in company registration, custom clearance and other legal formalities.

Another important incentive is Liberia's large pool of labour which is available at relatively low wage rates. The minimum wage in 1979 was US$0.25 per hour, and most skilled workers earn about US$1.00 per hour for 40 to 48 man-hours per week. To provide the basic necessary skills required by modern industry, the Liberian National Council for Vocational/Technical Education and Training has been established. Its general training programmes increase the pool of available skilled labour.[1]

To facilitate imports and exports, the export processing zone in Monrovia is located half a mile from the Free Port of Monrovia. The current cargo movements in the Free Port account for about half of the existing operating capacity. EPZ investors are therefore not likely to experience port congestion or costly cargo handling delays.

Exports from Liberia are easily accessible to potential world markets because Liberia is a participant in several customs arrangements which provide special benefits to manufacturers in Liberia. For example, Liberian products are allowed duty-free entry into the European Common Market countries as a result of the Lome Convention which provides for free trade between the European Economic Community (EEC) and ACP countries of which Liberia is a member. Liberian manufacturers can also enter the markets of the USA duty-free if 35 per cent of the value of their goods has been added in Liberia.

VALCO - Tema

VALCO's investment in Ghana has initially been described as the "Edgar Kaiser's gamble in Africa", but its decision to invest in Ghana derived largely from a rational assessment of the potential gains it hoped to achieve taking account of the incentives and fiscal concessions it was granted in the Master Agreement signed with the Ghana Government. According to this agreement:

(i) imports by VALCO for the construction of the aluminium smelter and its operation must be duty-free for the first 30 years;

(ii) there should be no restriction, control or taxation of VALCO's aluminium exports;

(iii) VALCO should be granted pioneer company tax relief which exempts it from all taxation of its income for at least five years, extending beyond that period to a maximum of ten years if profits have not totalled a minimum of L20 million.

(iv) Government of Ghana should not insist on a firm commitment on the part of VALCO to install, in due course, an alumina plant in Ghana;

(v) Hydroelectric power should be sold to VALCO at 2.65 mills per kilowatt hour (a mill is 1/10th of a US cent and at the time of its establishment, the mill was lower in value than the lowest unit of the Ghanaian currency, the pesawa);

(vi) VALCO enjoys export bonus of 20 per cent in respect of its export proceeds.[2]

In addition to these incentives, VALCO found in the country a highly qualified and skilled manpower which could be hired at most favourable rates. The minimum wage in Ghana at the time of its establishment was about US$15 per day for unskilled workers. The skilled workers earned about US$9,00 to 12,000 per annum.

As a subsidiary of a group of major multinational firms, VALCO has full access to important market information, distribution channels, international marketing skills and exposure to world-wide competitive markets. Exports of its products are therefore relatively easy.

EPZ - Monrovia and VALCO - Tema
Role of direct foreign investment

Foreign direct investment has played varying roles in the growth of manufactured exports in Liberia and Ghana.

EPZ - Monrovia

The described incentives offered by LIFZA in Monrovia would seem quite attractive to foreign investors. However, the response by foreign multinationals was much less than expected so that direct foreign investment at the moment has not played a significant role in the growth of manufacturing exports from Liberia. Table 2.1 lists the multinational enterprises which have expressed interest in locating in the EPZ in Monrovia in 1979 and 1981.

Table 2.1. EPZ Industries in Monrovia, Actual and Proposed Direct Foreign Investment - 1979/1981 (US $).

Industry	YEAR 1979	YEAR 1981
Agro-Machines Ltd.	650,000	-
Bharwaneys, Inc.	260,000	-
LIBTRACO	2.5 million	-
Liberian Industrial Trading Enterprises	1 million	-
LIBPALMCO	6 million	-
Rhine-Schelde Verolme	-	100 million
Liberian UPALI Cocoa Inc.	-	5 million
United Textiles Ltd.	-	5 million
Johnny Electronic Company	-	2 million
Kanco Metal Company	-	500,000
Wolverine	-	400,000
Federal Textile Corporation	-	1 million
United Mattress Foam Co.	-	1 million
Kali Corporation	-	5.1 million

Source: Liberia Industrial Free Zone Authority Annual Report, July 1979 - June 1980.

However, these investments, except those of Agro-Machines Limited, have not yet materialised.[3] They represent expressed interests only and not actual inflow of direct foreign investment in the EPZ. This poor response despite the numerous fiscal incentives is largely attributable to a number of difficulties LIFZA has been encountering in attracting investors into the EPZ. These include, according to LIFZA:

(i) inadequate funds for investment promotion;

(ii) competition with other EPZs;

(iii) export restrictions; and

(iv) lack of internal coordination of investment policies.[4]

Funds for investment promotion

The study of successful export processing zones such as Shannon Free Zone in the Republic of Ireland and some Asian zones shows that they spend about 25 per cent of the overall annual budgetary allocation on investment promotion. LIFZA, however, spends only 5 per cent of its operating budgetary allocation on investment promotion, and in its current 1982/83 budget no provision has been made for investment promotion. As a result, LIFZA's choice of investment promotion strategies has been limited and dictated to a large extent by the promotional funds available at its disposal.

Competition

LIFZA has to compete with other countries for the attraction of investment capital but some of these countries offer greater incentives to manufacturers to enable them to operate with low production costs and improve their competitive position. One way of achieving this is by providing low-cost but quality labour which is indeed one of the main incentives of any export processing zone. Labour costs in export processing zones, as in the Philippines, Sri Lanka and Malaysia, are far below those in Liberia. Wage levels of skilled workers in these export processing zones, for example, are between US$60 and US$80 per month and those of semi-skilled workers are between US$25 and US$40 per month. These rates are far below those provided in Liberia where skilled workers earn between US$160 and US$192 per month.

Besides, in other EPZs there is often already a pool of trained industrial workers, thus minimising training cost to investors. In contrast, in Liberia, the level of productivity associated with industrial labour is relatively low. Even if investors wish to invest in the EPZ despite these drawbacks there are other problems connected with export restrictions they have to consider.

Export restriction

Liberia maintains trade agreements with the Mano River Union (which comprises Liberia, Sierra Leone and the Republic of Guinea) as well as the Economic Commission of West African States (ECOWAS). These are the potential markets for investors but since LIFZA is considered as being outside the customs area of Liberia, no industry within the EPZ

qualifies to obtain "Union industry status" nor will the products of such an industry enjoy preferential treatment under the Union arrangements. Similar views are also expressed by ECOWAS. No investor who wants to serve the Mano River Union and ECOWAS markets therefore, would see an advantage in locating within the free zone.

Internal co-ordination of investment policies

Even though one of the objectives of the LIFZA is to induce the utilisation of locally-available raw material such as rubber, timber, silica sands, coffee, cocoa and oil palm, some of these are put under the control of separate organisations whose goals and objectives are not necessarily consistent with those of LIFZA. For example, the Liberia Produce Marketing Corporation (LPMC) has been granted monopolistic rights over the marketing of cocoa and coffee beans in Liberia. For this reason, one of the major investment proposals that has been accepted by LIFZA and which deals with the processing of cocoa beans into cocoa cake and cocoa butter for export is still pending. This is because LPMC has not agreed to sell its cocoa production to the Upali Group of Companies, the major sponsor of the proposed project which could have attracted US$5 million of investment funds into the EPZ.

LIFZA has received a number of new investment proposals since 1980 as shown in table 2.1. The 1981 proposals, for example, could have attracted US$120 million of direct investment funds into the EPZ but owing to the above-mentioned multitude of problems, none has yet materialised. The only multinational enterprise in operation at the moment in the EPZ is Agro-Machines Limited with a direct investment of US$650,000.

Agro-Machines Limited is basically an export-oriented company but, at the moment, 60 per cent of its products are consumed in Liberia. Thus, its role in the growth of manufacturing exports from Liberia is now relatively small. Since foreign direct investment in the Liberian EPZ has remained minimal it has not as yet played a significant role in the growth of manufacturing exports from Liberia. This situation is likely to continue for a considerable time unless effective and positive steps are taken to remove the beforementioned obstacles which hinder the operation of LIFZA at present.

VALCO - Tema

VALCO responded positively to available investment incentives in Ghana's industrial estate, Tema, with an initial direct investment of US$120 million in 1964. Since then VALCO's investment in current assets, plants and equipment increased steadily as indicated in table 2.2.

Table 2.2. VALCO's Direct Investments - 1978 - 1982
(in thousands US $)

Item	YEAR				
	1978	1979	1980	1981	1982
Current Assests	52,881	58,664	99,155	139,576	90,390
Plant and Equipment	207,280	243,636	260,985	276,985	233,249
Total	260,161	302,300	360,140	416,561	323,639

Source: Volta Aluminium Company Limited, 1982 Annual Report.

According to the 1982 Annual Report, the decline in VALCO's investment in 1982 was due to a 40 per cent reduction in the company's total production as the result of the closure of two of its potlines. Two major reasons accounted for this action. Severe drought in the catchment area of the Volta Lake has resulted in insufficient water to generate enough electricity for VALCO. Secondly, the depressed economic conditions throughout the aluminium industry resulted in operating losses for all major producers and severe production cutbacks throughout the industry.

VALCO's direct investment in 1981 was particularly remarkable. Unlike the EPZ in Monrovia, VALCO's direct investment has played a significant role in the growth of its manufactured exports from Ghana. Table 2.3 shows VALCO's output in metric tonnes and the corresponding total revenues from 1978 to 1982. The total revenues which increased from US$98.1 million to US$188.8 million in 1982 were generated from the export of its product, aluminium ingots, from 1978 to 1982.[5]

Table 2.3. VALCO's Production and Total Revenues 1978 - 1982

Item	YEAR 1978	1979	1980	1981	1982
Aluminium Production (metric tonnes)	113,462	168,729	191,195	190,497	174,246
Total Revenues ('000 US $)	98,065	133,159	163,365	154,217	188,789

Source: Volta Aluminium Company Limited - 1981 Annual Report.

Despite production difficulties experienced in 1982, total export revenue increased in that year. Comparing the direct investments (table 2.2) and the production and total revenues (table 2.3), it is evident that VALCO's direct investment follows a similar distribution pattern as its production and total revenues. This shows VALCO's full involvement in processing manufactured outputs for export through direct foreign investment. This trend is likely to continue so long as VALCO continues to operate in Ghana under the prevailing favourable conditions.

Indeed the level of VALCO's direct foreign investment compared with that of the three largest import substituting companies in Tema is remarkable as it dwarfs the investment of the latter (see table 2.4).

Table 2.4: VALCO's initial investment compared to initial investment in import substitute industries in Tema (in million US$)

Industry	Initial Direct Investment
VALCO	120
Ghana Textiles Manufacturing Company	1.3
Ghana Cement Works	3.1
Lever Brothers (Ghana Ltd.)	0.3

Source: Unpublished industrial census statistics, Central Bureau of Statistics, Accra.

Among the enterprises having settled in Tema, VALCO stands out clearly as the most significant multinational enterprises with the largest direct foreign investment. Its role in the growth of manufactured output in Tema is also outstanding especially as it is free from the difficulties that plague the operation of the import substituting industries in Tema.

EPZ - Monrovia and VALCO - Tema
Number of enterprises and type of production

EPZ - Monrovia

As mentioned before, the only multinational enterprise which is operating at the moment in the export processing zone in Monrovia is Agro-Machines Limited. It manufactures agricultural tools, implements and equipment such as cassave processing machines, oil palm and palm kernel processing machines, charcoal manufacturing equipment and corn mills.

Agro-Machines Limited started operation in 1981. Its value of exports in 1981 stood at US$1 million with a total labour force of 50. Compared to the manufacturing enterprises outside the zone as shown in table 2.5, the contribution of Agro-Machines to the total manufacturing activity in

Monrovia is quite meagre. There are a number of industries outside the zone which individually employ labour in excess of that of Agro-Machines Limited, and the value of their sales exceeded US$3 million. Despite these obvious differences, Agro-Machines Ltd. is the only manufacturing enterprise which accounts for the export of manufactures from Liberia at the moment. Manufacturing industries outside the EPZ are import-substitute industries which produce solely for the domestic market. Thus, faced with a somewhat lucrative domestic market and insulated from foreign competition, those establishments which fall within the category of import substitute industries prefer to locate outside the EPZ despite the generous fiscal incentives LIFZA offers. Their contributions to export revenues of Liberia are negative at the moment.

Table 2.5. Characteristics of Selected Manufacturing Establishments Outside Monrovia EPZ - 1980 - 1981

ISIC Industry	Number of Establishments		Employment		Sales Value US $ '000	
	1980	1981	1980	1981	1980	1981
31 Food	10	10	997	953	37,140	35,205
33 Wood	9	9	414	401	4,003	3,947
34 Paper, Printing	3	3	81	75	1,380	1,082
35 Chemicals	5	5	244	278	7,350	6,217
36 Non-Metalic Mineral Production	3	3	152	161	8,296	9,255
38 Fabricated Metal Production	2	2	115	121	809	904
Total	32	32	2,003	1,989	58,978	56,610

Source: Quarterly and Annual Establishment Survey 1980 to 1981, Ministry of Planning and Economic Affairs, Monrovia.

VALCO - Tema

VALCO is the only export-oriented multinational enterprises in Tema. VALCO manufactures aluminium ingots for export to its customers throughout the world. For this purpose, VALCO imports alumina and other key raw materials such as calcine petroleum coke, aluminium fluoride, and cryolite from the United States and coal pitch from Germany. VALCO's carbon plant manufactures the necessary carbon anodes. All these elements come together in a facility that is of modern technology and is managed and staffed by dedicated professionals. VALCO produces molten aluminium which is cast into various sizes and shapes: pigs, sows, ingots and billets.[6]

Apart from the existence of Agro-Machines Ltd., within the Monrovia EPZ and the dominance of VALCO in Tema, a considerable amount of manufacturing activity is also undertaken outside the Monrovia EPZ and outside Tema.

The comparison of tables 2.3 and 1.12 show striking differences between VALCO and other industries as regards capacity. In contrast to the performance of other companies VALCO's capacity utilisation increased steadily between 1978 and 1980/82. Its export revenues also show an upward trend during the period. Considering the fact that 60 per cent of Ghana's industrial establishments are located in Tema, VALCO's role as an export-oriented multinational enterprise is very impressive.

Ownership of EPZ enterprises and origin of foreign investment

The pattern of ownership and origin of foreign investments in the EPZ in Monrovia and VALCO in Tema is not homogenous. While some of the enterprises are wholly foreign-owned or joint ventures between local firms and foreign MNEs, a number of others are completely locally owned.

EPZ - Monrovia

Even though Agro-Machines Ltd. is the only MNE operating in the EPZ in Monrovia at the moment, it may also be of interest to analyse the ownership patterns of the proposed MNEs which were expected to have been located in the export processing zone based on investment proposals. Table 2.6 indicates the ownership structure of the actual (Agro-Machines Ltd.) and proposed operations (all the other enterprises) in the Monrovia EPZ.

Table 2.6. Ownership Structure of Actual and Proposed Enterprises in the EPZ in Monrovia

Industry	Wholly Foreign-Owned	Joint-Venture	Local	Origin of Investment
Agro-Machines (Ltd.)	X			India
Bharwaneys Inc.	X			British
LIBTRACO		X		American/ Liberian
Liberian Industrial Trading Enterprise			X	Liberian
LIBPALMCO			X	Liberian
Liberia Upali Cocoa Inc. (LUCI)		X		American/ Liberian

Source: Liberia Industrial Free Zone Authority Annual Report, July 1980 - June, 1981.

Agro-Machines Ltd., the only MNE in operation in the EPZ at the moment, is wholly foreign-owned with its investment capital originating from India. Two of the proposed MNE subsidiaries (LIBTRACO and LUCI) are joint ventures between Liberian and American investors. The other two proposed enterprises (LITE and LIBPALMCO) are locally owned with investment capital originating from local sources.[7]

Most of the investment funds, both actual and proposed, emanate from developing countries. Only two were expected to originate from the United States. But even these were to have been joint ventures between American and Liberian investors. This pattern is certainly very different from that existing in most Asian EPZs were foreign direct investment from industrialised countries' MNEs is much more preponderant.[8]

VALCO - Tema

The Volta Aluminium Company is wholly foreign-owned by Kaiser Aluminium and Chemical Corporation (90 per cent) and Reynolds Metals Company (10 per cent). Both parent companies are of American origin.[9]

Kaiser Aluminium and Chemical Corporation, the larger shareholder in VALCO, is both a fully integrated aluminium producer and a diversified industrial company engaged in a number of businesses, including agricultural chemicals,

industrial chemicals, refractories and international commodities trading. It also has a 50 per cent capital interest in Kaiser Aetna, a large real estate development firm in the United States.

The corporation is the third largest aluminium producer in the United States and participates in all major world markets. It is involved in mining bauxite, the major aluminium-bearing ore; the refining of alumina, the intermediate material; the production of primary aluminium; and the fabrication and sale of aluminium products to other fabricators and end-users.

The corporation's annual primary aluminium capacity in 1975 totalled 935,000 short tons, with its four US smelters providing 724,000 of the total. The remaining 211,000 tons is produced from partially-owned overseas smelters, including VALCO.

Kaiser's aluminium fabricating operations are conducted at 41 different plants throughout the United States. The corporation now has interests in bauxite, alumina, primary aluminium, or fabricating firms located in 12 foreign countries, including Ghana. This review of Kaiser's operations shows that VALCO belongs to a network of large investment interests owned by Kaiser Aluminium and Chemical corporation throughout the world. Kaiser's investment in VALCO in Ghana therefore represents a relocation of part of its investment interests to Africa, and Edgar Kaiser's "gamble in Tropical Africa" has so far yielded dividends.[10]

Sectoral distribution, size groups and type of production of the EPZ enterprises

Sectoral distribution of enterprises in most export processing zones the world over indicates that textiles and electronics industries predominate. However, the export processing zones in Liberia and Ghana do not exhibit this tendency.

EPZ - Monrovia

The existing MNE in the export processing zone in Monrovia at the moment (Agro-Machines Ltd.) operates in the engineering industry and specialises in the manufacture of agricultural equipment. It employs high technology in the manufacture of most of its products, although a few of these such as the corn mills are assembled at the factory from parts imported mainly from India. Compared to other industrial enterprises

outside the EPZ, Agro-Machines Ltd. is a relatively small company judged on turnover and employment (table 2.5). Nevertheless, it contributes (although in a limited way) to the export revenues of Liberia.

VALCO - Tema

With its production capacity of 200,000 metric tonnes primary aluminium per year, VALCO is a major supplier of primary aluminium for the world market. The company employs 2,500 Ghanaians who constitute 97 per cent of the company's workforce also in positions requiring high technical and professional skills. VALCO's operation is fairly labour-intensive judging from its level of employment. In comparison to other manufacturing industries in Tema, VALCO stands out clearly as the largest investor, the largest producer of manufactured exports and also as the largest employer of labour. Its output compared to the primary aluminium production in the Kaiser Aluminium and Chemical Corporation as a whole is also impressive. Out of the total 211,000 metric tonnes of primary aluminium that was produced by Kaiser's overseas smelters, VALCO accounts for the lion's share with its total production capacity estimated at 200,000 tons. As shown in table 2.3, VALCO's production has always been very close to this production capacity.

Notes

[1] "Rules and Regulations of LIFZA", National Investment Commission, Republic of Liberia.

[2] Master Agreement between the Government of Ghana and Volta Aluminium Company Limited, Accra, Ghana.

[3] Liberia Industrial Free Zone Authority, Annual Report, July 1979 - June 1980.

[4] "The Liberia Industrial Free Zone Authority: Review of its activities and factors affecting its success", LIFZA, Monrovia, Liberia.

[5] Volta Aluminium Company Limited, 1982 Annual Report.

[6] Volta Aluminium Company Limited, 1981 Annual Report.

[7] Liberia Industrial Free Zone Authority Annual Report, July 1981 - June 1982.

[8] See Maex, op. cit.

[9] Volta Aluminium Company Limited, 1979 Annual Report.

[10] P. Siekman: "Edgar Kaiser's Gamble in Africa", Fortune, Vol. 64, Nov. 1961.

CHAPTER III

Direct employment effects of MNEs in export processing zones in Monrovia and Tema

The direct employment effect of the MNEs in the export processing zones is the employment created in the investor's own plants. It is determined by the extent of labour intensity, the size of the existing market for the products and sales efforts made by the enterprise or its marketing agents.[1] The impact of the EPZ enterprises in Monrovia and Tema on direct employment in both countries, varies considerably.

EPZ - Monrovia

Compared to the total labour force and employment in Liberia and Monrovia in particular, the number of workers employed for the moment in the export processing zone is very small. Agro-Machines Ltd., the one and only EPZ enterprise in operation currently employs not more than 50 workers. This figure has not changed since it started operation 18 months ago.

The total labour force in Monrovia as shown in table 1.6 is 54,000. The direct employment in Agro-Machines Ltd. compared to this labour force is just 0.09 per cent. Compared to the employment in the selected manufacturing industries in the Monrovia region as shown in table 2.5, Agro-Machines' contribution is 2.5 per cent.

The direct employment impact would have been more significant if all the proposed enterprises had located in the export processing zone. Table 3.1 shows the direct employment projection for the enterprises which were expected to have located by 1981 in the zone. If this had materialised, the zone would have generated a direct employment of 7,710 in addition to that of Agro-Machines Ltd.[2] Thus, the total direct employment expected to be generated by the EPZ would have represented at least 14.3 per cent of the labour force in Monrovia representing a substantial proportion of manufacturing employment in the Liberian capital. Since about 50 per cent of the potential labour force in Monrovia is unemployed, the opportunity cost of these unemployed persons is zero. This means that if the EPZ would indeed absorb 7,710 of these unemployed persons, it would produce net benefits.

Table 3.1. Direct Employment Projection for the Proposed EPZ Enterprises (1981)

Industry	Direct Projected Employment
Bharwaneys Inc.	25
Lite	67
LIBPALMCO	38
Rhin-Schecde Verolme	3,000
Liberian Upali Cocoa Inc.	3,050
United Textiles Ltd.	500
Johnny Electronics Company	450
Kano Metal Company	150
Wolverine	120
Federal Textile Corporation	110
United Mattress	100
Kali Corporation	100
Total	7,710

Source: LIFSA Annual Report, July 1980 - June 1981.

Additionally, the sectoral distribution of direct employment in the export processing zone would have varied widely. The largest new job opportunity creators in the EPZ would have been Rhine-Schecde Verolme and Liberian Upali Cocoa Inc. with a total direct employment of 6,050. United Textiles Ltd. and Johnny Electronics would also have created 950 new job opportunities in the export processing zone. Unfortunately, none of these expectations have as yet materialised.

The ownership pattern and sectoral distribution of the proposed EPZ enterprises previously discussed shows that employment creation in the EPZ was expected to be primarily induced by a foreign multinational enterprise. Considering the fact that over 70 per cent of the population of Liberia is engaged in agriculture and that the production of agricultural equipment and tools modernises the current agricultural practices, the MNE investment by Agro-Machines Ltd. in the EPZ is important even though its direct employment is very small at the moment.

Table 3.2. Analysis of Workforce in Agro-Machines Limited by Skill, Sex, Education and Work Experience.

Item	Managerial Professional	Clerical	Skilled	Unskilled
Number of Employees	3	1	37	9
Sex				
Male	3	1	37	9
Female	-	-	-	-
Highest Level of Education				
High School	-	-	-	-
Technical School	-	1	37	-
University	3	-	-	-
Work Experience				
In Related Industry	3	1	-	-
Appreticeship	-	-	37	9
Inexperienced	-	-	-	-

Source: Compiled from field interviews.

The workforce in this multinational enterprise possesses varied educational backgrounds and work experience as table 3.2 shows (referring to its distribution by skill, sex, education and work experience). The top management of the enterprise which is categorised as managerial-professional, are all expatriates. They comparise the managing director who is an Indian and two Ghanaians - the works manager and the accountant. The managing director and works manager are qualified engineers with university degrees. The accountant also a university graduate. The skilled and unskilled workers employed by the company are all Liberians. They were recruited from the Liberian Opportunities Industrialisation Center (LOIC) Training School in Klay, Bomi Territory, to serve as the required technical manpower input. They were, however, given additional on-the-job training. The first 37 of these recruits have already gone through this training process and are therefore categorised as skilled employees. Significant, and very different from the experience in other export processing zones, there are no female employees in the establishment.

It is certainly too early to analyse the turnover rate of the Agro-Machines labour force. Since it was established, about one-and-a-half years ago, it has maintained its labour force. Despite the small number of persons employed, the contribution of the enterprise to the employment opportunities in Liberia is therefore a positive one.

This does not necessarily mean that Agro-Machines Ltd. can always serve as a source of employment for all categories of the unemployed in Monrovia. The technical nature of the manufacturing process of the enterprise demands that only people with technical education can be employed. The enterprise has therefore not had much impact on Monrovia's unskilled labour force, which is the largest segment.

VALCO - Tema

Comparatively, VALCO is a very large employer of labour in Tema as table 3.3 for the years 1975 to 1982 demonstrates. Its direct employment increased steadily from 2,170 in 1975 to 2,572 in 1977. In 1978, there was a slight decline since the plant operations were adversely affected by electric power failures. From 1979 to 1981, the direct employment level again increased from 2,293 to 2,606.[3]

Still, compared to the total manufacturing employment in Ghana as a whole, VALCO's employment levels are relatively small as indicated in table 3.4, relating to the years 1977 to 1979.[4] Despite its relatively low share in the total employment, it must be stressed that VALCO is the only export processing multinational enterprise in Ghana which provides such level of job opportunities. VALCO's share in the total manufacturing employment in Tema as indicated in table 3.5 is, however, quite substantial.

Table 3.3. VALCO - Direct Employment - 1975 - 1982

Year	Direct Employment	% Ghanaian Employees
1975	2,170	97.6
1976	2,471	97.8
1977	2,572	97.9
1978	1,849	97.1
1979	2,293	97.5
1980	2,516	97.5
1981	2,606	97.5
1982	2,060	97.5
Total	18,537	-

Source: Volta Aluminium Company Limited, Annual Reports 1979 - 1982.

Table 3.4: VALCO's contribution to the total manufacturing employment in Ghana, 1977-1979

Year	Total manufacturing in Ghana	VALCO's direct employment	% share of VALCO
1977	88 947	2 572	2.89
1978	85 249	1 849	2.16
1979*	79 832	2 293	2.87

* These figures are the most recent available.

Source: Industrial Statistics, 1977-1979, Central Bureau of Statistics, Accra and VALCO Annual Report, 1979.

Table 3.5: VALCO's contribution to the total manufacturing employment in Tema

Year	No. of Industrial Establishments	Total Manufacturing Employment in Tema	VALCO's Direct Employment	% share of VALCO
1977	25	11 428	2 572	22.5
1978	23	11 310	1 849	16.4
1979	24	11 635	2 293	19.7

Source: Industrial Statistics, 1977-1979. Central Bureau of Statistics, Accra and VALCO Annual Report, 1979.

Considering the fact that most of the industries in Tema are presently experiencing problems with capacity utilisation and new job creation owing to problems associated with the import substitution strategy under which they operate, VALCO's contribution to the creation of jobs in Tema is certainly important.

Furthermore, the quality of jobs created by VALCO is also very significant. VALCO is a modern high-technology enterprise which requires highly-skilled manpower. As indicated in table 3.3, about 98 per cent of the employees in VALCO are Ghanaians who possess specific technical and managerial skills. In 1981, for example, VALCO employed 2,542 Ghanaians and only 64 expatriates.[5] Owing to the availability of highly technical manpower in the country, VALCO is gradually decreasing the number of expatriate personnel to enable an increasing number of qualified Ghanaians to occupy top management positions as well as to benefit from VALCO's provision of long-term work experience in the Kaiser Aluminium System. By 1982, VALCO's top management personnel totalled 26 out of which 12 (or 46 per cent) were Ghanaians.

Table 3.3 indicates that there is a positive relationship between the level of production and level of employment in the company. Employment levels were high for all those years that VALCO's levels of output were high. In 1978 the level of aluminium production dropped to 113,462 metric tonnes from 154,123 metric tonnes in 1977. Corespondingly, the level of employment also fell from 2,572 in 1977 to 1,849 in 1978. This suggests that so long as VALCO's production levels do not fluctuate, direct employm levels will also remain stable. As already mentioned, VALCO's full production capacity is 200,000 metric tonnes of aluminium production. Also, as its capacity use is above average, VALCO has not yet reached its full production capacity. An increase in the level of production to reach full capacity will also yield an increase of the level of direct employment.

Notes

[1] Susumu Watanabe: "Multinational enterprises, employment and technology adaptations". International Labour Review, Vol. 120, No. 6; Nov.-Dec. 1981, pp. 693-708.

[2] LIFZA Annual Report, July 1980 - June 1981.

[3] Volta Aluminium Co. Ltd., Annual Reports, 1979-1982.

[4] Industrial Statistics, 1977-1979, Central Bureau of Statistics, Accra.

[5] Volta Aluminium Co. Ltd. 1980 Annual Report.

CHAPTER IV

Indirect employment effects of MNEs in export processing zones in Monrovia and Tema

MNE investments in export processing zones generate indirect effects on employment but these effects are usually complicated and difficult to quantify. Despite this difficulty, they can be conceptualised and some of them can be empirically evaluated. Figure 2 depicts conceivable indirect employment effects that may be generated by an EPZ enterprise.

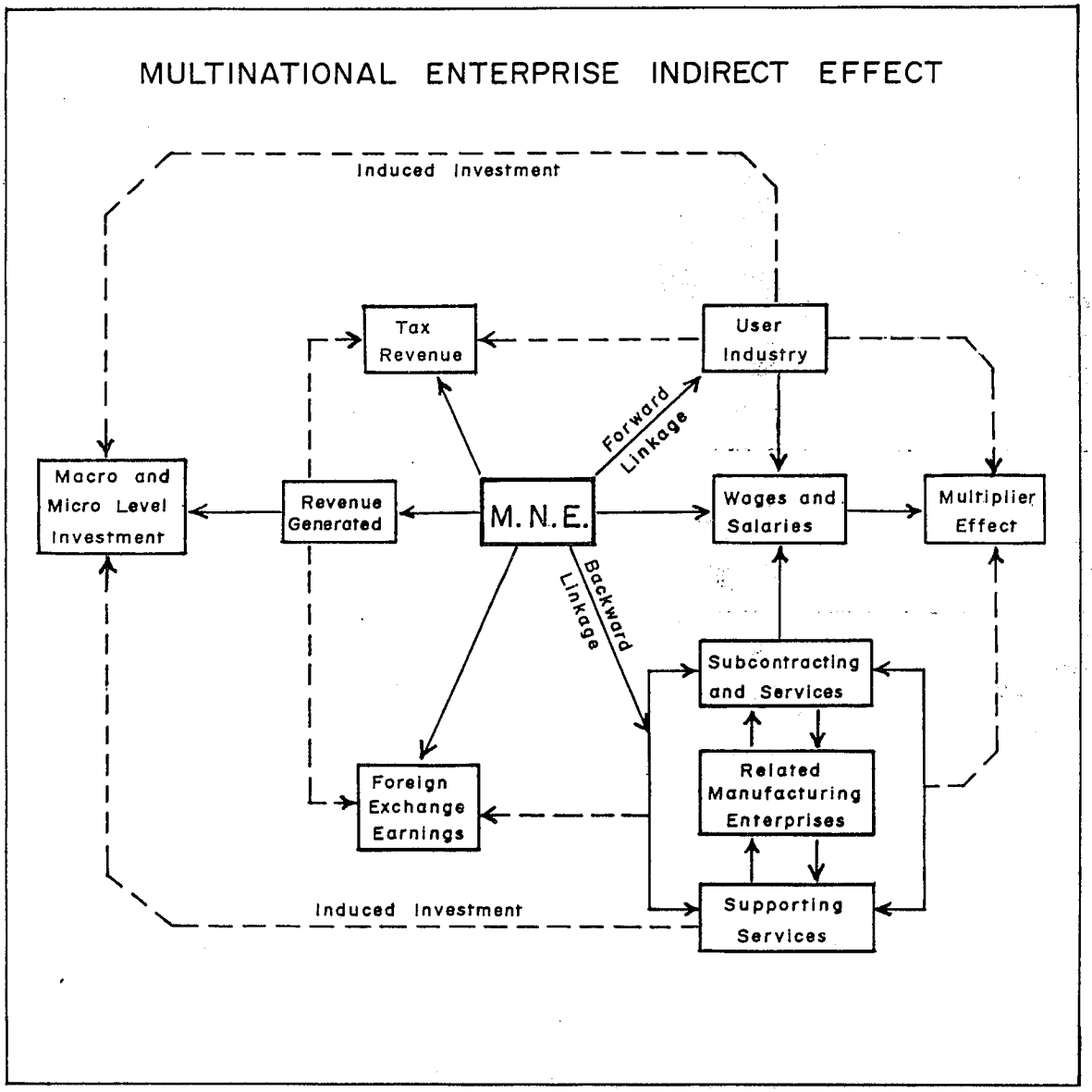
The solid lines radiating from the MNE indicate primary indirect effects that the MNE's operation would generate outside its plant while the broken lines indicate secondary indirect effects on the local economy that result from the primary effects. Through primary indirect effects the MNE could have effect on foreign exchange earnings, on a related industry that may use its output as inputs. Similarly, through backward linkages, the MNE could subcontract its operation to a subsidiary industry, rely on a related manufacturing enterprise for its inputs, or on a local raw material source for its inputs. Consequently, ancillary activities may spring up as supporting services for these various linked activities. All these would definitely employ labour as a result of their relationship with the MNE. This is the MNE's indirect employment effect. On a macro-scale, these linked activities are likely to induce investments in the local economy and generate multiplier effects. The resulting employment from these induced investments and the multiplier effects are also indirect effects of the MNE. The indirect employment effects of the Monrovia EPZ and VALCO - Tema could effectively be discussed within this conceptual framework.

Monrovia EPZ

If the EPZ in Monrovia was well developed, there is the possibility that all the complex linkages conceptualised in figure 2 would have been empirically valid. At the moment Agro-Machines Ltd. has developed no backward linkage with any industry within or outside the zone. It generates no tax revenues since it was granted 100 per cent exemption from corporate income tax for a minimum of five years. It does no subcontracting to any subsidiary industry within or outside the zone. It does not compete with any firm outside the EPZ. It imports all raw material inputs for its export processing. In all these cases, the primary indirect effects of Agro-Machines Ltd. are very negligible.

The primary indirect effect of Agro-Machines Ltd. could be assessed from its payment of wages and salaries to its employees, its contribution to foreign exchange earnings, and rental payments on services provided by LIFZA, transfer of skills and technology and forward linkage with the local economy through the sale of its products.

Fig. 2



Source: Adapted by the author from S. Watanabe: Multinational enterprises and employment-oriented "appropriate" technologies in developing countries, Multinational Enterprises Programme Working Paper No. 14 (Geneva, ILO, 1980), p. 6.

Wages and salaries

Agro-Machines Ltd. is not a large employer of labour and therefore cannot create a sizeable effect on income and effective demand through its wage and salary payments. The wages and salaries it paid its 50 employees in 1980 amounted to US$138,333. The average gross salary per employee per annum amounted to US$2,766.66 or US$230.56 per month.[1] This is comparatively high. Skilled workers employed outside the zone earn US$192 per month. However, the employees of the enterprise seem to need their remuneration overwhelmingly for consumption. In fact, the interview with the employees indicated that none of them has, for instance, invested remuneration in any enterprise outside the zone. The primary and secondary indirect effects of wages and salaries earned in Agro-Machines Ltd. can therefore be considered quite negligible.

Foreign exchange earnings and rental payments

In 1980, Agro-Machines Ltd. paid an amount of US$29,226 to LIFZA in respect of land rental, factory rental, infrastructure fee and import licensing fee.[2] This amount is too small to reimburse a substantial part of the investment cost incurred by LIFZA in establishing the free zone, let alone contribute to the foreign exchange revenues of the Government of Liberia. Table 4.1, which shows the investment by the Government of Liberia in the export processing zone at the end of the fiscal year 1981/82, indicates clearly this discrepancy.

Table 4.1: Liberia Government's investment in the EPZ, 1981/1982

	US$
Development (Government of Liberia)	9,439,366
Development (external funding)	2,914,830
Recurrent (Government of Liberia)	3,348,592
Total	15,692,788

Source: LIFZA, Review of its activities and factors affecting its success, Monrovia.

The fees paid by Agro-Machines Ltd., the only enterprise active in the zone, represents only 0.2 per cent of the government's total zone investment. In the short-run therefore, at least, the primary indirect effects of Agro-Machines Ltd. through the contribution to the government revenue is also negligible.

Transfers of skills and technology

Employees at Agro-Machines Ltd. have been trained on-the-job and have acquired skills. But it would be difficult for them to transfer such skills outside the EPZ to similar industries or to create establishments in the same sector and thus generate primary indirect effects because Agro-Machines Ltd., like most multinational enterprises, possess an oligopolistic control over its patents and technology. This would enable it to out-compete any local firm which intends to establish a similar enterprise.

Forward linkages

As a producer of agricultural machinery, tools and equipment, Agro-Machines Ltd. has established meaningful forward linkages with individuals and organisations in the local economy by the sale of 60 per cent of its output locally. One of the major local customers is the Liberia Produce Marketing Corporation (LPMC) which has recently purchased a number of oil palm processing machines to process oil palm in a number of oil palm plantations owned by the corporation. Even though it is too early to assess the primary indirect effects of this case since the machines were installed on the oil palm plantations in June 1983 only, this relationship represents a meaningful forward linkage that could stimulate the desired primary and secondary indirect effects.

On the whole, the export processing zone in Monrovia has not yet generated significant primary or secondary indirect effects on the local economy. This does not mean that the EPZ in Monrovia is not useful to the local economy. An important determinant of the extent of the EPZ enterprises direct and indirect employment effects is time. Indirect effects increase over time especially when more MNEs are attracted to the EPZ and become familiar with local suppliers and customers. With encouragement from the government authorities there is the future potential that MNEs could evolve a significant role in generating jobs and foreign exchange revenues as well as primary and secondary indirect employment effects in Liberia.

VALCO - Tema

Like Agro-Machines Ltd. in Monrovia, VALCO generates no primary indirect employment effects through subcontracting or competing with a similar industry in Tema or Ghana as a whole. Nevertheless, VALCO generates more primary and secondary indirect employment effects than the Monrovia EPZ.

VALCO's primary indirect employment effects includes, however, its contribution to foreign exchange earnings, tax revenues, wages and salaries, its forward and backward linkages and miscellaneous positive repercussion on the local economy.

Foreign exchange earnings

VALCO's contributions to the foreign exchange earnings of Ghana and Ghana's economy as a whole are specified in table 4.2.

By 1981, VALCO generated a total of US$373 million of foreign exchange for Ghana during 15 years of its operation in the country.[3] As indicated in table 4.2, the sources of this foreign exchange contribution include, operating and construction spending in Ghana, payment for power, income tax payments, VALCO Fund contributions and other payments.

The operating and construction spending in Ghana comprises wages and salaries to VALCO employees, benefits for employees, payments for water, petroleum products, operating supplies and local services such as community assistance to schools, hospitals and governmental agencies. The amounts involved in this expenditure increased consistently over the years despite the slight declines in 1978 and 1979. The primary indirect employment effects, even though they cannot be exactly quantified, can be considered as substantial in view of the sums involved.

Power payments by VALCO also represent an important contribution not only to the foreign exchange required to pay for the Volta Dam loans but also to the support of the large number of enterprises that depend on the power from the dam for their operations. These enterprises obviously employ an important workforce. VALCO's primary indirect employment effects in this case should also be substantial.

The VALCO Fund Contribution is also generating important primary indirect employment effects in Ghana. The VALCO Fund supports various medical, educational, scientific, development and social projects that benefit Ghana. It was set up in 1962 as part of the concept of the Volta River Project. The trust deed which constitutes the VALCO Fund specifies its

Table 4.2. VALCO's Contribution to the Economy of Ghana, 1975 - 1982
('000 US $)

Nature of Contribution	YEAR							
	1975	1976	1977	1978	1979	1980	1981	1982
Operating and Construction Spending in Ghana	11,700	22,600	31,082	14,629	16,109	23,609	30,617	31,383
Power Payments	7,900	8,232	16,530	10,288	13,261	15,459	16,620	17,459
Income Tax Payments	-	-	-	-	-	15,155	19,384	18,166
VALCO Fund Contributions	200	200	200	200	200	9,008	11,420	2,175
Other	-	-	-	429	1,985	866	132	2,173
	19,800	31,032	37,872	25,117	29,570	63,713	76,906	71,356

Source: Volta Aluminium Company Limited, Annual Reports, 1979 - 1982.

its objectives as "(a) the advancement of education and science for the benefit of the people of Ghana and (b) the carrying out of such social and development projects that are charitable in purpose as in the judgement of the Managing Trustees shall be beneficial to the people of Ghana."[4] In 1981, for example, the Fund approved US$1.1 million for a hostel for the school of medical science at the University of Science and Technology in Kumasi, US$363,636 to purchase science equipment for secondary schools, US$223,636 for electrocardiograph and physiotherapy equipment for the Ministry of Health and US$253,818 for textbooks for university students. These contributions of the VALCO Fund are also likely to generate primary and secondary indirect employment effects.

VALCO started paying income tax to Ghana in 1980 after the expiration of its tax holiday period. Since then its income tax payments have increased from US$15.1 million in 1980 to US$19.4 million in 1981. These revenues are also likely to generate primary indirect employment effects in the local economy.

Forward and backward linkages

VALCO's forward and backward linkages with the local economy are poorly developed at the moment. VALCO imports alumina for its operations even though bauxite, the raw material from which alumina is refined, exits in large quantities in Ghana. According to VALCO, a detailed study of the proposed bauxite/alumina project utilising bauxite from the local deposits in Ghana, showed a negative cash flow for the first seven years of operation and a very low return on investment thereafter. Besides, the cost of such a project was estimated in 1980 at US$600 million.[5] These explanations by VALCO are not quite convincing. After the feasibility study for the establishment of an alumina plant that could utilise the bauxite resources in Ghana by Kaiser Engineers, a consortium known as Bauxite Alumina Study Co. Ltd. (BASCOL) was formed. This consortium comprised Kaiser Aluminium and Chemical Corporation, Reynolds Metals Company and Aluminium Resources Development Company (ARDECO) from Japan. Kaiser owned 50 per cent of the shares in this corsortium while Reynolds and ARDECO owned 30 per cent and 20 per cent respectively.[6]

BASCOL was to have initiated work on the alumina project but the Government of Ghana also wanted 30 per cent of the shares. For this reason, Reynolds Metals Co. withdrew from the consortium. This has caused a serious set back owing to marketing problems associated with the aluminium industry. With the withdrawal of Reynolds, it became difficult to find another partner in the aluminium world to consume 30 per cent

of the aluminium output which represents the Ghana Government's proposed share in BASCOL.[7] It will therefore require several users of aluminium to make the project viable and until then VALCO cannot establish effective backward linkages with the local economy.

At the request of the Ghana Aluminium Industries Commission, Kaiser Aluminium and Chemical Corporation began selling a portion of VALCO's total output of aluminium to the Commission for sale to local fabricators. By the agreement VALCO will sell 500 metric tonnes of aluminium ingots to the Commission per year in quarterly instalments of 125 metric tonnes each.

In 1981, the Government of Ghana announced plans to build an aluminium rolling polant in Tema and VALCO has acquired 1 per cent of the shares; upon completion of the rolling mill, the aluminium sales to the Commission by VALCO will increase by 10,000 metric tonnes.[8] These arrangements will definitely establish effective forward linkages with the local economy as well as generate primary indirect employment effects.

In addition to this, Kaiser Aluminium and Chemical Corporation, VALCO's majority shareholder, has proposed to invest in an integrated agricultural project in the Accra Plains of Ghana. The principal crop would be rice, with some acreages under maize and sorghum. To initiate the project Kaiser Aluminium, through its affiliate, Kaiser Aluminium International Co., would join with a group of Ghanaian banks to invest in the project. Kaiser Aluminium would also provide a portion of the foreign exchange required.[9] Such a backward linkage with the economy when the project materialises could yield tremendous primary and secondary indirect employment effects.

VALCO contributes to the local economy in other ways by responding positively to the needs of various organisations. Table 4.2 shows examples of such schedules of contributions in 1980, 1981 and 1982, during which VALCO contributed US$8,052, US$205,091 and US$137,611 respectively.[10] These contributions also generate primary indirect employment effects.

VALCO's indirect employment effects are certainly much more important than those of the Monrovia EPZ at present. In both cases, there are also temporary indirect employment effects associated with the construction of the investors' plants. Like some other indirect effects these are difficult to assess since the labour involved was of a temporary nature and the relevant records are not on hand.

Table 4.3 Volta Aluminium Company Limited Schedule of Contributions 1980 - 1982 (in US $)

Item	1980	1981	1982
Education	5,035	87,319	39,182
Civic	647	1,890	15,587
Community Development	2,833	86,182	20,000
Sports	184	16,700	10,000
Health	-	13,000	38,842
Agriculture	-	-	14,000
Total	8,052	205,019	137,611

Source: Volta Aluminium Company Limited, Official Records, 1980 - 1982.

Notes

1 Agro-Machines Ltd., Official Records, EPZ, Monrovia.

2 LIFZA, Annual Report, July 1980 - June 1981.

3 Volta Aluminium Co. Ltd., 1981 Annual Report.

4 Volta Aluminium Co. Ltd., 1979 Annual Report.

5 Volta Aluminium Co. Ltd., 1980 Annual Report.

6 Feasibility study for an alumina plant in Ghana, prepared for the Government of Ghana, Vol.1, Report No. 66-41-Re, Job No. 6439, Nov. 1966.

7 "Ghana: Search for the third partner" in West Africa, 4 June 1973, No. 729.

8 1981 Annual Report, op. cit.

9 Volta Aluminium Co. Ltd., 1982 Annual Report.

10 Volta Aluminium Co. Ltd., Official Records, 1980-1982.

CHAPTER V

Characteristics of employment, working conditions and labour relations in the export processing zones of Monrovia and Tema

The discussions in the previous chapters have shown that the direct and indirect employment effects in the export processing zones of Liberia and Ghana are not homogeneous. Both the direct and indirect employment effects of MNEs in Tema are more substantial for the time being than those of the EPZ in Monrovia. Still, direct and indirect employment effects in both countries have been generated by the MNEs involved. Another important aspect is the quality of employment in MNEs' operation in export processing zones.

It has been noted in other studies that MNEs in EPZs tend to offer little incentives for training and career prospects since the operations involved are simple and the labour force is a rotating one, mostly composed of young women workers accepting for a number of years secondary employment (i.e. employment supplementing family income).[1] Other more far-reaching lines of argument claim that MNEs' profit orientation and the usually large supply of labour in the developing countries is at the expense of workers' safety, job security, health, and labour/management or trade union relationship.[2] It is necessary, however, to make a factual analysis of these problems for each EPZ location in order to avoid unnacceptable generalisation.

Just as in the case of the Asian EPZ's, the outstanding characteristics of the workforce in the EPZ in both Monrovia and Tema relate to its sex and age structure, marital status, educational background and previous work experience. These will be considered in the following pages together with working conditions (including training schemes, career prospects, wages and salaries, fringe benefits, safety and health conditions and working hours) and industrial relations.

EPZ - Monrovia

(a) Characteristics of employment

As mentioned earlier, all the employees in Agro-Machines Ltd. are male workers. The predominance of male workers in this enterprise is not surprising and seems conditioned by the type of industry involved. According to the management of the enterprise, preference is given to

male employees because the type of manufacturing process the enterprise operates demands male input. Management holds that female workers can hardly endure the strenous conditions involved in the manufacture of agricultural tools and equipment.

There also seems to be a narrow relationship between the nature of manufacturing process and age structure of the employees in the enterprise. The interviews conducted during the field survey for the present study revealed the following age structure of the employees (table 5.1).

Table 5.1. Age Structure of Employees in Agro-Machines Limited October, 1983

Age Structure	Number of Employees	Percentage
14 - 21	11	22
22 - 29	28	56
30 - 39	7	14
39	4	8
	50	100

Source: Field Survey.

Seventy-eight per cent of the employees were under 30 years of age while 56 per cent were between 22 and 29 years of age. This predominance of young workers also correlates positively with the strenuous work involved in the manufacturing process.

With regard to marital status, 70 per cent of the employees were married while 20 per cent were expecting to get married as soon as they could afford it. The majority of this married class was above 22 years of age and consisted of the main breadwinners in their families. Asked whether the workers would be retired earlier than the normal retiring age of between 50 and 60 years in Liberia, in the light of the strenuous work, the management indicated that such a decision was a possibility but no firm decision had been taken yet on this matter.

As already mentioned with regard to educational background, the possession of some technical education was a pre-codition for employment in the enterprise. Besides, management in selecting workers ensures that its employees possess the aptitude and ability to learn, and can easily adapt to the working conditions in the factory. These pre-conditions for employment ensure that the employees are well prepared to acquire skills that can result in high productivity.

(b) Working conditions and training

Except for the top management, all the employees were newcomers to the labour market as they had no previous working experience. They therefore acquire the specific work-related skills through training in the enterprise, commonly through on-the-job training. Apart from on-the-job training schemes, most employees do not benefit from any kind of formal advanced training to improve their technical know-how nor are such training schemes planned for them by the management. Nevertheless, workers interviewed seemed reasonably satisfied with the present form of training which gives them some career prospects in metal works. On the other hand, the possibility of using the acquired skills outside the zone is negligible. This does not mean that, in principle, the skills they have acquired from the present job could not be useful in alternative employment. Upon leaving their present employment, the employees could easily be employed in allied metal industries as welders, metal fabricators and other jobs connected with the metal industry, if such employment alternatives actually existed. As regards Agro-Machines Ltd. it can therefore not be said that MNEs are reluctant to train their employees because this training would be lost to the enterprise when workers leave for another employment. In Agro-Machines Ltd., efficient training of the employees on-the-job is looked at as an important function as it ensures efficiency and high productivity for the enterprise.

Wages and salaries in the Monrovia EPZ are relatively higher than those for workers with similar skills outside the zone. This differential in remuneration to employees outside the zone is deliberately maintained by the management of Agro-Machines Ltd. for a number of reasons.

In the Monrovia job market, requisite technical skills that are demanded by modern industry are in rare supply. The demand for the few that are available is very high and competitive. Even though most employees in this enterprise possessed no previous working experience, the opportunity cost of their employment in the zone is not zero since with their basic educational and technical know-how, the workers could find employment in other industries outside the zone. To be

able to compete effectively with other enterprises which require similar skills therefore, relatively attractive remunerations are required as incentive to attract to the EPZ the best available skills. Similarly, relatively attractive remunerations are needed to ensure labour stability which also guarantees high productivity. These factors emphasise the wisdom of awarding more attractive wages and salaries to the employees in the zone than outside.

In addition, the employees also enjoy a number of fringe benefits. These include group insurance schemes, free medical facilities and annual bonuses. By the terms of the group insurance scheme with a Monrovia-based insurance company (the Insurance Company of Africa), management pays a premium of US$10,000 for each permanent employee of the enterprise. The insurance policy covers the life of the employee as well as disability caused by accident before, during and after working hours or by disease contracted during his tenure of service with the enterprise.[3]

All employees also enjoy free medical facilities. Since its inception to the time of the interview for this study (October 1983), Agro-Machines Ltd. paid US$1,500 in medical expenses for its employees. To ensure easy access to medical facilities, LIFZA operates a health centre in the EPZ by virtue of a contract signed between the Authority and a private medical practitioner. This health centre treats all minor cases. More serious cases are usually referred to better-equipped hospitals in Monrovia.

The annual bonuses are granted to the employees upon realisation of high profits in the enterprise. This is an incentive to motivate high productivity and a sense of responsibility. The group insurance scheme and the provision of free health facilities for workers are made in response to legislation enacted by the Government of Liberia while the annual bonuses to workers are freely determined by the management of Agro-Machines Ltd.

With regard to occupational safety, the enterprise provides a number of protective devices. To protect the employees' eyes against welding flames, for example, the management issues goggles to all workers in that section of the production process. The handling of metals can be injurious to the hands of the employees. To prevent or minimise this risk of injury, gloves are provided for all the workers. In addition, employees are provided with free work clothes. Sufficient fire-fighting devices also exist in the factory.

Another aspect of working conditions in the Monrovia EPZ is working time and work organisation. The EPZ enterprise operates only one shift. The standard working time is defined as 8.5 hours per day for 5.5 working days, giving the working time per month as 186 hours or 22 working days. The daily working hours are from 08.00 hours to 17.00 hours with a lunch break of one hour between 12.00 to 13.00 hours. This is the standard schedule of work from Monday through Friday. End of work on Saturday is 12.00 hours.

It was found that the MNE adheres to all labour standards as determined by the laws of Liberia. To ensure the maintenance of these standards, teams of officials from the Ministry of Labour inspect the premises of the enterprise periodically.

(c) Labour relations

Labour relations in the EPZ are governed by labour laws of the Republic of Liberia. According to these laws, no strikes by workers are permitted in the EPZ unless the following procedures are followed:

(i) All disagreements or bargaining shall first be discussed between the management and workers' unions.

(ii) Failing to reach an amicable settlement, the management and workers' union shall invite LIFZA to mediate.

(iii) If this also fails, either party or both may request an independent party acceptable to both to mediate.

(iv) Failing this too, either or both parties shall appeal to the Ministry of Labour, Youth and Sports to mediate.

(v) With no satisfactory agreement from this effort, the workers' union may resort to strike action with permission through the courts of Liberia.[4]

Since the inception of Agro-Machines Ltd., the workers' union and the management have not yet negotiated any form of conditions of work. This suggests that, so far, the employees are reasonably satisfied with their working conditions and other facilities provided by the management of Agro-Machines Ltd.

VALCO - Tema

(a) Characteristics of employment

The characteristics of employment in Volta Aluminium Co. Ltd. likewise relate closely to the jobs that are performed in the enterprise. VALCO employees are classified into two broad categories, namely the management-professional class and junior or "hourly" workers. The "hourly" employees are subdivided into four groups labelled A, B, C and D. Groups A and B are referred to as employees in "Discomfort Areas". Group C employees work in Production and Maintenance Areas, while Group D employees work in Clerical and Technical Areas,[5] (see table 5.2). In Group A under "Discomfort Areas", the description of job titles in the potrooms include: potrooms crane operator, cell operator and rammer operator. Metal production carries jobs such as furnace operator, fireman and casting operator. Jobs in carbon operations include mixer operator, spray furnace operator and cast iron pourer and casting operators. The other groups embrace similar well-defined jobs.

Each group clearly defines the characteristics of its employees. The employees in the management-professional class are all males. In the hourly group, Groups A, B and C employees are also all males. Groups A and B are particularly difficult and hazardous areas which are described as "Discomfort Areas". These are not regarded as suitable for female employment. It is only in Group D that female employees are evident. Even in this case, the female employees in this group are all nurses who work in the company's hospital. This suggests that VALCO's manufacturing process as a whole is very strenuous and sex selective. This does not mean, however, that sex discrimination exists. It seems rather evident that female workers can hardly endure the physical strains associated with the highly technical manufacturing process of the company.

The age structure also varies according to the category of employment. In the management-professional class, the employees are relatively old. The average age of the employee in this class is 36 years. This is not surprising because it requires long years of service and professional competence to accede to this category of employment. The present employees in this class have had all long years of service with VALCO.

The employees in the "hourly" class are much younger. The average age of the employees in the various groups in this category of employment is 25 years. This average is, nevertheless, quite high as compared to the average age of employees in other EPZs such as in Malaysia for example.[6]

Table 5.2. Categories of VALCO Hourly Employees and Job Titles

Groups A and B - Discomfort Areas

Area of Work	Number of Job Titles	
	Group A	Group B
Potrooms	6	8
Metal Production	6	7
Carbon Operation	7	13
Dock and Material Handling	4	1
Maintenance	13	24

Group C - Production and Maintenance

Job Classification	Number of Job Titles
31	1
32	4
33	11
34	16
35	11
36	16
37	8
38	2
39	2
40	1

Group D - Clerical and Technical

Job Classification	Number of Job Titles
22	9
23	11
24	22
25	25
26	21
27	2

Source: Compiled from the agreement between VALCO and Industrial and Commercial Workers' Union (I.C.U.), 1980-83.

In VALCO, employees in these groups have spent a considerable number of years in technical schools and universities acquiring the requisite technical knowledge that the company requires. Most of them joined VALCO after attaining the age of 24 years. With regard to marital status, the majority of employees in all categories of employment were married. VALCO provides many incentives for married employees and most of the unmarried employees take advantage of these to marry upon joining the company.

VALCO ranks as one of the largest MNEs in Africa with a very high concentration of professionals with a high level of education in their respective fields. All the employees in the management-professional class (both expatriate and local) are highly qualified engineers and medical officers with university degrees. They supervise and manage key areas of VALCO's production process.

Even the employees in the hourly category are also highly qualified personnel. Sixty per cent are trained engineers while the rest had a minimum of technical education. In fact, VALCO itself describes its workforce as efficient and hardworking. All the employees, particularly the Ghanaians, had no working experience in the aluminium industry before joining VALCO. This is because VALCO is the first of its kind, not only in Ghana but in Africa as a whole. VALCO therefore provides the opportunity for developing local skills in aluminium production. Considering the fact that Ghana has a very large bauxite deposit from which alumina can be processed for an aluminium manufacturer like VALCO, this is certainly a valuable contribution to the development of the necessary skills for the future development of the industry as a whole.

(b) Working conditions and training

Since its inception, one of the basic objectives of VALCO has been to continually train and upgrade the skills of its employees. To achieve this goal, VALCO intensified its training and career development programmes in Ghana and overseas. To facilitate its in-house training in Ghana, VALCO has constructed a new US$450,000 on-site training facility for its employees. The overseas training programmes include provision by VALCO of long-term work experience at plants in the Kaiser aluminium system, particularly for its management personnel. VALCO also participates in training programmes outside the company, in part in order to hunt for technical talents. For example, VALCO participates in the Ghana Government's National Service Training Programme.

This programme in which VALCO and other Ghanaian enterprises undertake to provide on-the-job training for university graduates has proven successful for the participants and for VALCO. For the individual, these training programmes, translate into expanded skills, intellectual challenge and broader opportunity for advancement. For VALCO, it means more flexible and highly trained management, employees who are stimulated and therefore likely to remain with the company. In 1980, VALCO employed 12 engineers who participated in such a training programme. Encouraged by the positive results that this investment in people is producing in terms of new knowledge and understanding which individual employees inject into production, VALCO increased its participation in this programme in 1982.

To retain and recruit a talented workforce in the face of Ghana's difficult economic conditions, VALCO is placing more emphasis on promotions within the plant and on training experiences in Ghana and abroad. Investment in training and career development and retention of its employees is important to VALCO because the company believes that the competitive forces at work in the aluminium industry will require increased efficiency at all levels of plant operation.[7]

Wages and salaries of the employees at VALCO vary according to the different categories of employment and compare favourably with other enterprises in Tema. The management-professional class employees earn a monthly salary of between US$727.3 to US$1,818.1. The hourly employees in Groups A, B and C earn between US$209.8 to US$339.6 per month while the employees in Group D (Clerical and Technical) earn between US$211.6 to US$336.4 monthly. The average wages and salaries for employees in similar categories in other industrial establishments in Tema range between US$44.4 and US$253.5.[8]

In addition, VALCO's employees enjoy a number of attractive fringe benefits, including free medical services, housing, annual bonuses, discomfort allowance, height allowance, free meals, participation in a provident fund, rent subsidy and end-of-service benefits. VALCO actively provides extensive health services for its employees. It has its own modern, professionally-staffed hospital which provides free out- and in-patient medical care for all employees and dependants of the management-professional class. For the dependants of the hourly employees, VALCO has built a permanent out-patient health clinic at the cost of US$900,000.

To solve the problem of the housing shortage in Tema, VALCO has initiated the construction of rental-unit housing for the management and hourly employees. The first phase of 32 housing units were completed in 1982. Thirty-six additional units are expected to be completed in 1983. Subsequent constructions will follow with a long-term goal of ensuring that all VALCO employees in need have satisfactory living accommodation. Furthermore, VALCO grants rent subsidy to all employees amounting to 25 per cent of the basic monthly salary.

In addition to these benefits, all employees falling within groups A and B are entitled to a "Discomfort allowance" of US$2.00 per shift for Group A employees and US$0.73 per shift for Group B employees.9 This allowance was instituted as an incentive and in recognition of the dangers involved in working in the relevant areas of the production process.

A "height allowance" is also paid to any employee engaged on duty for any length of time during his shift in any of the following specified areas:

	Area	Allowance
(a)	Potroom Stack	- US$7.3 for the first stage - US$3.6 for each additional stage
(b)	Metal Products Stack	- US$3.6
(c)	Maintenance men working on top of Vacuum unloaders	- US$1.8
(d) (i)	Employees working on top of Alumina Dome/ Coke Silos	- US$1.5
(ii)	Carbon Bake Stack	- US$3.6
(iii)	Power Towers at Potline	- US$1.5

Any employee called in from home to work outside his normal shift shall be entitled to a call-in allowance of US$1.5 in addition to payment for overtime. VALCO also provides one meal to each employee on the plant site during scheduled shift at no cost to the employee.

VALCO provides end-of-service benefits to its employees.[10] They also benefit from a provident fund to which the employee pays 5 per cent of his salary while VALCO pays 10 per cent. Upon retirement from the company, the employee is entitled to claim the total contribution. All employees of VALCO are members of this fund. In addition, annual bonuses are paid to every employee who on 1 December has 11 months services with the company. This bonus amounts to 250 per cent of the employees' monthly base salary.

These benefits are negotiated with VALCO on behalf of the employees by the Industrial and Commercial Workers' Union (ICU) of the Trade Union Congress (TUC) of Ghana.

Safety regulations are strictly adhered to in VALCO because VALCO views the maximisation of safety on-the-job as the key to the success of any industrial enterprise. In 1979, for the fifth consecutive year, VALCO won top honours in Kaiser Aluminium's International safety competition when the company set a Kaiser Aluminium record of 4,329,969 man-hours of work without a disabling injury. VALCO's safety performance in 1979 and 1980 compared favourably with relevant United States industry averages. For instance, in both years, VALCO employees experienced on-the-job accidents only about one-fifth as frequently as the average for major US aluminium producers.

Despite these achievements VALCO places considerable emphasis on employee awareness of good safety practices. For instance, in 1982, VALCO organised a month-long safety training course for 100 supervisors of the company. The course focused on the identification of potential hazards, general housekeeping practices, and regular review of safety principles with employees. All employees are provided with the necessary safety equipment in each category of employment.

VALCO operates 24 hours daily with three main shifts as follows: 07.00 - 15.00 hours; 15.00 - 23.00 hours; and 23.00 - 07.00 hours. Each shift works 40 hours per week or 8 hours per shift. These working hours are for workers in the factory only. Workers in the offices, who are referred to as "Straight Day" workers, work daily from 07.30 - 15.30 hours.

(c) Labour relations

It would appear from discussions with management and workers as well as from the content of the collective agreement concluded that VALCO maintains effective labour relations with its employees through the Industrial and Commercial Workers' Union. This union negotiates with VALCO on behalf of the employees for better working conditions. In March 1980, for example, a new labour contract was concluded between VALCO and the union which stipulates a good number of the above-mentioned wage regulations and benefits. In addition to increasing pay benefits, the contract provided substantial improvements in medical care as well as end-of-service benefits for the employees. The union also mediates in all disputes between VALCO and its employees, under the Industrial Relations Act of 1965. By virtue of this Act, all employees of VALCO belong to the union.

In summary, the conditions of work of employees in the Monrovia EPZ and VALCO, Tema would appear to indicate that the MNEs involved view the provision of adequate working conditions as an essential element in a successful production process. VALCO's benefits to its employees are, however, more elaborate than those of Agro-Machines Ltd., which is undoubtedly connected to the fact that as a much larger enterprise it also has much larger resources at its disposal.

Notes

[1] Maex, op. cit.

[2] Masanori Hashimoto: "Minimum wage effects on training on the job", The American Economic Review, Vol.72, No. 5, Dec. 1982.

[3] Agro-Machines Ltd., Official File on Employment Benefits, EPZ Monrovia.

[4] LIFZA, Employment Regulations, 1st edition, Oct. 1981, Monrovia.

[5] Agreement between VALCO and Industrial Commercial Workers' Union (ICU), 1980-1983, Tema.

[6] Maex, op. cit.

[7] Volta Aluminium Co. Ltd., 1982 Annual Report.

[8] George Botchie: "Ghanaian industrialisation and its external linkages", in F.E.I. Hamilton and G.J.R. Linge (eds.): Spatial analysis, industry, and the industrial environment, Vol. 11 (John Wiley and Sons Ltd., 1981).

[9] Agreement between VALCO and Industrial Commercial Workers' Union (ICU) 1980-1983, Tema, op. cit.

10 These benefits are as follows:

Reasons for leaving the service of the company	Benefits
(a) Old age	
Men 55 years compulsory retirement) Women 50 years compulsory retirement) Men 50 years voluntary retirement) Women 45 years voluntary retirement)	350% of the monthly base pay for each completed year of service
(b) Death Ill health	250% of the monthly base pay for each completed year of service
(c) 15 years service or 45 years of age	200% of the monthly base pay for each completed year of service
(d) Redundancy	200% of the monthly base pay for each completed year of service
(e) Resignation/Termination	
Over 10 years service	150% of the monthly base pay for each completed year of service
5-10 years service	100% of the monthly base pay for each completed year of service

Summary and Conclusions

Multinational enterprises in export processing or similar zones have played varied roles in the economy of Liberia and Ghana. In Liberia, the export processing zone in Monrovia was established in response to the need to improve the declining economy and export revenues as well as to attract investors and generate direct and indirect employment. Contrary to general expectations, the performance of the export processing zone has been disappointing so far. Since its establishment in 1975, the zone has only attracted direct investment from one multinational enterprise in spite of the Government of Liberia's investment of more than US$15 million to equip the zone. As a result, the impact of the zone on direct and indirect employment in Liberia is, at least for the time being, very small. The direct employment provided by the only enterprise operating in the zone is 50 workers. The indirect employment effects are extremely limited. The wages and labour conditions for the workers employed in the zone compare well, however, with those of other enterprises.

The employment structure and labour force composition in the zone show particular features which are very different from those found in EPZs in other countries, in particular Asian EPZs, for which a detailed ILO study exists. A main explanatory factor for this difference is the nature of the industry involved.

It is difficult at the moment to say how soon the problems facing the attraction of multinational investment into the zone will be solved. This does not mean that the problems defy solution or that the EPZ concept is not workable in Liberia. Multinational enterprises continue to show interest in investing in the zone. With time and more effort, the EPZ could live up to its full potential and contribute to employment and export-oriented development of the country as is the case in the successful export processing zones in various Asian countries.

On the other hand, VALCO in Ghana is a peculiar multinational enterprise. Even though it is not located in an export processing zone in the strict sense of the word, it operates much like an EPZ enterprise. The expectations attached to its direct foreign investment have largely been fulfilled. Its establishment has provided economic justification for the construction of a hydroelectric dam which has had a considerable impact on the economy of Ghana as well as VALCO. As one of the largest multinational investments in Africa, it has had substantial direct and indirect employment effects.

VALCO's direct employment represents the largest by a single individual enterprise in Tema. Apart from its various linkages with the Ghanaian economy which provide indirect employment, the enterprise contributes substantially to the foreign exchange earnings. Likewise, it provides training in Ghana through its in-plant arrangements or its special training fund as well as its response to requests for training contributions from various organisations. Wages and labour conditions in the enterprise are above average and labour management relations are effective and conflicts are almost absent. Like the enterprise in Liberia, VALCO in Ghana has particular labour force characteristics which differ from those in the more wellknown EPZs in Asia and are largely determined by specific production and manpower requirements of the enterprise.

Despite these meaningful relationships, VALCO's indications for not developing more backward linkages with the bauxite deposits in Ghana and, therefore, more indirect employment, are not fully convincing; but they can be explained by a negative outcome of earlier efforts to establish an alumina plant that could utilise the bauxite resources of the country, despite a promising feasibility study.

With different arrangements, involving other partners in addition to VALCO, the bauxite and alumina project may still be economically justifiable. VALCO's inability to develop effective backward linkage with the Ghanaian bauxite resources at the moment may, therefore, be considered more as a short-term bottleneck. Considerable indirect employment could be expected from greater backward linkages of the company with the local economy and by its very level of training Ghanaian manpower in aluminium operations.

VALCO's example also seems to indicate that the adoption of a fully-fledged export processing zone concept by the Ghana Government could be worthwhile and desirable as a step towards more export-led industrialisation.