

## **11.3 Alternative Financing Plans**

### **11.3.1 Possible Financial Arrangements**

Through contacts with major finance institutions in Ecuador such as National Finance Corporation (CFN), Development Bank of Ecuador (BEDE), Central Bank of Ecuador, Inter-American Development Bank (IDB) and Andean Development Corporation (CAF), basic condition of finances have been identified as follows:

- (1) It is difficult for the international development finance institutions to directly finance to ZOFREE due to uncertainty of ZOFREE's creditability
- (2) External loans can be channeled through CFN on condition that only a foreign portion of project costs is eligible for the loan. The loan through CFN is provided in local currency with its terms of loan.
- (3) CFN has a fund for working capital, S/. 400 million at maximum at the moment, but may increase this limitation in near future as it has a plan to expand its own fund.
- (4) BEDE's lending has been confined to public sector development projects and non-profit institutions. There is, however, an exemption when CONADE and Procuraduria General del Estado permit BEDE to provide loans to private entities when social or public purposes of the project is recognized.

With the above conditions in view, alternative finance arrangements have been assumed as follows: (Refer to Annex M.3)

#### **Alternative 1 (Concessional loan for local portion excluding promotion cost)**

Foreign Portion : CFN  
Local Portion : BEDE

#### **Alternative 2 (Government grant for local portion or total portion of infrastructure)**

Foreign Portion : CFN  
Local Portion : Government grant (+ Commercial loan)

#### **Alternative 3 (Commercial loan for local portion)**

Foreign Portion : CFN  
Local Portion : Commercial loan

### 11.3.2 Alternative Financing Plans

#### 1) General

It is difficult to forecast changes in inflation rates, so that following assumptions have been made:

- Inflation rate in Ecuador : 50% per annum
- Depreciation of Sucre against US dollar : 45.5% per annum
- Lending interest rates : 56% (CFN and commercial banks)  
48% (BEDE)

For the depreciation of Sucre against US dollar, the rate of depreciation was projected, using the Manufacturing Unit Value (MUV) index between 1991 to 2005, forecasted by World Bank.

#### 2) Net income

Revenues and costs of ZOFREE has been projected in a simplified manner. Revenues are just converted into Sucre from US dollar, with the depreciation rate of 45.5% per annum.

Costs usually comprise operating costs including maintenance and promotion costs, interests, depreciation and tax. For the Project, however, income tax is exempted under the Law of Free Zone. Likewise, depreciation can be ignored since it does not affect net income and it is counterbalanced afterwards in accounting principles. The costs are inflated in each year at the inflation rate of 50%. Payment of interest rates varies, depending on alternative financial arrangements.

#### 3) Sources and uses of funds

Sources of funds will consist of the net income, depreciation, equity, Government contribution and loans.

#### Equity

As of June 1991, ZOFREE has its paid-up capital of S/.5 million, which is scheduled to increase up to S/.208 million within the year. Port Authority is a major stockholder (75%), followed by private enterprises (20%) and public institutions (5%).

ZOFREE will be able to increase its equity by CFN's participation in stockholders if the requirements are met. Suppose CFN holds stocks at maximum, the equity will amount to S/516 million for the current amount of ZOFREE's equity. ZOFREE will give priority in the application of equity to working capital.

#### Government Contribution

As noted before, the Government is expected to contribute to ZOFREE a fund, at least, for the local portion of infrastructure. The contribution amounts to US\$950,000 or S/1,093 million at June 1991 prices (exchange rate: 1 US\$ = S/1,150). This will be taken into account in the alternative financing plan (Alternative 2).

#### Loans

Foreign portion of the promotion and O&M costs up to 1995 is assumed to be included in the loan provided by CFN, while foreign portion of the promotion cost in the loan is presumably provided by other local finance institutions. Even with the loans and other funds, it is anticipated that there will be annual deficits in cash flow for several years after the commencement of implementation of the Project. Therefore, CFN's fund for working capital is assumed to meet the deficits.

The funds will be applied to project investment and loan repayment. In this analysis, outlay of dividends is not taken into account. The project investment comprises the initial investment of the Project. Table 11-10 shows the disbursement schedule of the Project investment.

#### 4) Alternative financing plans

##### (1) Alternative 1

##### Case 1

Alternative 1 is a financial arrangement of concessional loan for the local portion of the Project. Foreign portion of the Project cost is assumed to be provided by CFN, while local portion by BEDE. In addition, CFN's fund for working capital is assumed to be given so as to meet the annual deficits.

No increase in equity in real terms is assumed. Table 11-11 shows a projection of increase in equity by obtaining interests.

Case 2

Difference between Cases 1 and 2 is on the equity. Here, S/. 765 million is assumed to be added to the scheduled equity of S/.208 million with participation of CFN and others in the stockholders.

(2) Alternative 2

Case 1

In Case 1 of Alternative 2, it is assumed that the Government will provide a fund for the local portion of infrastructure, while commercial loan will be provided for the rest of the local portion. Loan for the foreign portion, as well as working capital, is assumed to be financed by CFN.

Case 2

In Case 2, the Government is assumed to outlay for both the foreign and local portion of infrastructure, while the other conditions are the same as in the Case 1 of Alternative 2.

(3) Alternative 3

Alternative 3 is a financial arrangement of commercial loan for the local portion of the Project. Terms of commercial loan are set as follows:

Interest rate	:	56%
Grace period	:	No grace period
Repayment period	:	One year
Method of payment	:	Equal amount of principal

(4) Comparison of alternatives

The table below shows a summary of the cash flow by each alternative financing plan analysed above (Refer to Tables 11-12 to Table 11-15)

Alternatives	Year shifting for surplus		Loan requirement (Current S/. mill)
	Net income	Total balance	
1 (Case 1)	1997 (4)	2004 (11)	627,427
1 (Case 2)	1997 (4)	2003 (10)	387,419
2 (Case 1)	1996 (3)	2002 (9)	174,506
2 (Case 2)	1996 (3)	1999 (6)	75,743
3			

Remarks: ( ) indicates the year from the operation commencement.  
Years for net income are over estimated more or less because depreciation is not taken into account in this analysis.

Among the alternatives, Alternative 2, especially Case 2, is the best option and it is hoped that the Government agrees to provide the fund for infrastructure cost for ZOFREE.

There is another way to get the Project financially sound. As shown in Alternative 1, Cases 1 and 2, increase in equity will reduce the loan requirement and get the surplus raised earlier in cash flow.

The result of Alternative 3 indicates that it would be difficult to implement the Project if ZOFREE fully depends on commercial banks as the sole finance source, and there is no increase in equity.

In conclusion, recommendations on the financing plan are made in the following manners:

- To look for the Government contribution to the Project,
- To increase equity as much as possible, for example, by asking for CFN's participation in the stockholders,
- To request that ZOFREE can obtain CFN's fund for working capital as much as possible, beyond the current limitation of S/.400 million, and
- To ask BEDE and appropriate agencies to permit ZOFREE to obtain BEDE's loan.



## 12. ECONOMIC EVALUATION

### 12.1 Method of Evaluation

#### 12.1.1 Enclave Approach

Economic analysis of the Esmeraldas EPZ Project will be made by employing the method called "enclave approach". This method has been applied to analyses on several export processing zones (EPZs) operated in Asia. To apply the method to the analysis on the Project, it is necessary to forecast economic activities of expected users in the Esmeraldas EPZ, based on some assumptions and situations specific to the Project. It is noted, however, that some factors will remain unquantifiable in the analysis.

In the enclave approach, an EPZ is treated as an enclave in the country. Unlike ordinary projects, transactions between EPZ as an enclave and the rest of the country are considered, instead of these between EPZ and overseas markets. In other words, net gain to the country obtained through the transactions between enclave and the country is counted as economic benefits for the country which are attributable to the Project. Enclave approach for an EPZ project may be easily understood when all the investors in the EPZ are foreign-owned enterprises.

#### 12.1.2 Benefits Addressed by Enclave Approach

Major benefits of the EPZ to accrue for the country are, in general, employment generation, foreign exchange earnings and transfer of technology. By employing the enclave approach, these benefits will be preliminarily examined, in the light of the specific characteristics of the Esmeraldas EPZ, in the following manner:

a) Employment generation (Wage earning)

The gains to Ecuadorian economy due to the generation of employment opportunities is the total payment of wages by foreign firms to workers minus the social opportunity cost of employing these workers, considering that the workers would have gained some wages without the Project.

b) Payment for user charges

The revenues that ZOFREE will receive from foreign firms are economic benefit for the Ecuadorian economy. They will comprise revenues of land lease and floor rental of the standard factories, as well as commercial and other service and other charges.

c) Profit Sharing to Employees

According to the Law of Free Zones, free zone employees in the EPZ are entitled to profit sharing as provided for under the Labor Code. The proportion of profit sharing is prescribed to be "15% of the liquid profits" in the Code. Thus, the gain to Ecuadorian economy is the partial transfer of foreign firms' profit to the workers.

d) Transfer of Technology

Transfer of technology is considered to be an important effect to be brought about by foreign firms. The technology includes the one related to production, quality control, management of labor, production control, marketing and business management. It would be difficult, however, to quantify this benefit.

e) Payment to Government of Ecuador

The taxes to be paid by firms in the EPZ represent a source of economic benefit to the domestic economy. In the case of the Esmeraldas EPZ, no taxes will be imposed on the users under the Law of Free Zones. However, firms in the EPZ shall pay to CONAZOFRA "two percent of total value of the foreign currency that the users require for their operation, administration, service, wage and salary expenses, except for expenses for purchase of machinery, raw materials or inputs (input factors, feedstock)" under the Law.

f) Domestic Inputs

In the economy with minimum wage laws and trade distortions, market value of final output is considered to exceed its social opportunity cost. Gain to the local economy is the difference between domestic price and c.i.f. import price if the former is protected by tariff. On the other hand, cost would be incurred to the domestic economy if the Government gives subsidies to domestic market price.



g) Increase in Value-added in the Port

Esmeraldas Port near the EPZ will be increasingly utilized owing to the EPZ users' transaction of imports and exports. Gains to the national economy will be net incremental production value owing to the existence of the EPZ.

h) Net Foreign Exchange Earnings

The foreign firms located in the EPZ must convert their foreign exchange at the official exchange rate into Sucre enough to meet their domestic wage bills and to purchase locally produced materials and goods. At present, official exchange rate is considered as exceeding the economic (shadow) exchange rate by about 5%. Balance of foreign exchange earnings evaluated at official and shadow exchange rates can be considered as economic benefit to the country.

All the benefits above will have to be quantified theoretically in the economic analysis. Practically, however, only benefits of employment generation and payment for user changes can be measured in this study, because production programs and volumes in the EPZ are unknown yet and the firms' future investments without the project condition are unpredictable.

## 12.2 Estimated Benefits

Economic benefit of the Project has been estimated by means of the enclave approach, comprising revenues to ZOFREE and wages paid to workers by foreign firms in the Esmeraldas EPZ. According to the demand survey of this study, five foreign firms have been identified as likely investors to locate their factories in the Esmeraldas EPZ. However, the number of likely firms would be increased if comprehensive demand survey is conducted instead of sample survey. Overall number of the foreign firms likely to be located in the Esmeraldas EPZ ranges 20 to 25 as noted in Annex B. Accordingly, economic analysis is made under the following three cases: (Refer to Annex N.2)

- |        |   |   |
|--------|---|---|
| Case 1 | : | 5 foreign firms will be located in the EPZ  |
| Case 2 | : | 10 foreign firms will be located in the EPZ |
| Case 3 | : | 20 foreign firms will be located in the EPZ |

As for the Cases 2 and 3, types of industry, number of employees and floor-lot area, are assumed to increase in proportion to the number of firms in Case 1.

1) Employment generation

The benefit of employment generation is the difference between wages, salaries and others payment to Ecuadorian workers and their opportunity cost. The workers' opportunity cost is equivalent to their shadow wage rate: 45% of wage rates for unskilled labor, as estimated by the Development Bank of Ecuador (BEDE).

According to the Law of Free Zone, the wages of workers hired by the users in the EPZ must be at least 10% higher than the minimum wages received by workers of the same sector in Ecuador" (Article 53). Also, the contract of wages will be agreed between the firms and the workers in US dollars.

Minimum monthly wage of small industry workers stipulated in Labor Code is S/. 40,000, as of January 1, 1991. However, workers and owners agreed with minimum monthly wage on an industrial sub-sector basis. The latter is applied in this analysis.

2) Revenue from foreign firms in the EPZ

Revenues from foreign firms for land lease and floor rental are economic benefits of the Project since they will be a gain to the Ecuadorian economy. The unit price of each revenue source can be taken as economic prices because the price was set as competitive with that of EPZs in neighboring countries. The unit prices are US\$2.5/m<sup>2</sup>/month and US\$0.5/m<sup>2</sup>/month for floor rental of standard factories and land lease, respectively.

3) Total benefits

The table below summarizes the annual economic benefits quantifiable in the evaluation. Further details are shown in Annex N.2.1.

Cases	Benefits	Employment (Wages paid)	(US\$1,000, June 1991 prices)	
			Revenue (Land and Floor)	Total
Case 1 (5 foreign firms)		631	414	1,045
Case 2 (10 foreign firms)		1,262	828	2,090
Case 3 (20 foreign firms)		2,523	1,656	4,179

The annual benefits would accrue from 1996, when foreign firms are scheduled to start locating their factories in the EPZ .

### 12.3 Estimated Costs

#### 1) Associated costs

In the economic analysis, all the costs associated with the implementation of the Project should be included in economic costs since economic analysis is made from the national economic point of view.

Associated (external) costs of the Project comprise the cost of power supply, telecommunication and water supply, as well as relocation of road to fishery port. Out of these costs, the costs for water supply and road are given in Table 11-2. Initial costs for power supply and telecommunication are estimated only for the purpose of economic analysis. The estimated cost is separately assessed as presented in Annex N (Refer to Table N-7). These costs are assumed to be disbursed in 1993. O&M costs for power supply and telecommunication are estimated to be US\$30,000 per year at June 1991 prices.

#### 2) Conversion to economic cost

Financial costs of the Project have to be converted into economic costs. First, the financial costs should be adjusted by internal transfer payment such as taxes and subsidies in Ecuador which is considered at 10% of the economic costs in this analysis. Foreign exchange premium should also be taken into account, in order to derive economic costs in case of local currency cost. Shadow exchange rate of Sucre against US dollar is estimated at 1.05 times as much as official exchange rate, as estimated by BEDE. Consequently, economic cost can be estimated by dividing financial cost by 1.155 ( $1.1 \times 1.05$ ) for local currency cost and 1.1 for foreign currency cost.

Table 12-1 shows the disbursement schedule of the economic costs of the Project. The economic cost of water supply is included in the construction cost, while costs of power supply and telecommunication are added as associated costs. Total initial cost is estimated to be US\$6.9 million, while total O&M cost is estimated to be US\$212,000 in full operation at June 1991 prices.

## 12.4 Economic Viability

### 1) EIRR

Economic benefit and cost streams of the Project are projected as shown in Table 12-2 through Table 12-4 for Case 1, Case 2 and Case 3, respectively. Economic Internal Rate of Return (EIRR) in each case is calculated as follows:

Cases	EIRR (%)
Case 1 (5 foreign firms)	6.1
Case 2 (10 foreign firms)	18.1
Case 3 (20 foreign firms)	33.4

Opportunity cost of capital being 12% in Ecuador, the Project is quite viable under Case 2 and Case 3. Though EIRR is rather low under Case 1, the Project may be considered justifiable, if the sizable amount of benefits which are not counted in this analysis are taken into account.

### 2) Sensitivity analysis

Sensitivity of EIRR has been analyzed only for the Case 2 under such conditions that revenues and costs are changed as follows:

#### Revenue

80% of the foreign firms would be renting standard factory in the Esmeraldas EPZ. The amount of revenue is therefore, quite sensitive to the change of the level of factory rent. Thus, the cases are:

#### Benefit

- Case (a) : Decline in unit price of floor rental of standard factory to US\$2.0/m<sup>2</sup>/month from US\$2.5/m<sup>2</sup>/month
- Case (b) : Delay in revenue by one year (Delay of users' investment)
- Case (c) : Increase in revenue by 10%

### Cost

- Case A : Increase in cost by 10%
- Case B : Increase in cost by 20%
- Case C : Decrease in cost by 10%

### Result

The result of sensitivity analysis is summarized below.

<sup>Cost</sup> Benefit	Base Case	Case A	Case B	Case C
Base case	18.1	16.3	14.7	20.2
Case (a)	16.7	14.9	13.4	18.7
Case (b)	15.1	13.6	12.2	16.8
Case (c)	20.0	18.1	16.5	22.1

Changes in EIRR under the above condition would not threaten the economic viability of the Project, exceeding 12% in all the cases.

## **12.5 Socio-economic Impacts**

Through the implementation of the Project, positive socio-economic impacts can be expected either directly or indirectly.

Direct impact can be considered as the employment opportunities to be provided within the Esmeraldas EPZ. It is estimated that about 2,450 workers will be employed in the factories located in the EPZ. In addition, 130 employees will be hired for the administration of ZOFREE and for the operation of the commercial facilities in the EPZ. Total employment will be 2,580.

Total value-added to be annually generated by industries in the Esmeraldas EPZ would amount to S/. 2,981 million at 1988 prices, on the basis of the existing data on gross production per employee and value-added ratio (ratio of value-added to gross production) by category of industries.

To handle the increased cargoes and shipping operation, administrative staff of the Esmeraldas Port Authority will be reinforced and more workers will be hired. Through the purchase of raw materials and intermediate goods from the province of Esmeraldas,

manufacturing industries and primary sector as well as transport sector of the region will be activated. In order to support the lives of these additional employees within and outside the EPZ, commercial and other services will be expanded.

All these would bring about positive socio-economic impact on the society, although they are not quantifiable in this analysis.

### 13. CONCLUSION AND RECOMMENDATIONS

The feasibility level study on the establishment of the Esmeraldas EPZ, as described in the foregoing Chapters, will lead to the conclusions and recommendations for its successful implementation as summarized hereunder.

1) Establishment of the Esmeraldas EPZ, planned for location of about 30 industries on the land of about 23 ha, could be financially viable if foreign enterprises and local industries are successfully invited to locate their factories in EPZ. In the event that the Esmeraldas EPZ is occupied by the investors in three years and that the land is leased at the rate of US\$0.5/m<sup>2</sup>/month, the financial internal rate of return (FIRR) will turn out to be 15.4%.

2) Foreign enterprises' interest in the Esmeraldas EPZ is rather weak yet at this study stage, and a determined and sustained effort should be exerted for the promotion activities to attract foreign investments so as to make the Esmeraldas EPZ economically and financially feasible. Effort for the promotion should be collectively made, not only by ZOFREE and CENDES but also by MICIP and the Ministry of Foreign Affairs and other organizations in a well coordinated manner. It is recommended that the effort for the promotion be firstly directed to attract US investors. At the same time, potential investors in NIES countries (Korea, Taiwan, Hong Kong, etc.) should be further investigated. Attention should be drawn to the fact that the financial viability is more sensitive to the delay in locating the industries, and the delay for one year would make the financial viability marginal.

3) In the promotion, it is recommendable that the partners for joint venture be introduced to the potential investors, judging from the facts that foreign investors are more willing to find partnership and that the Ecuadorian enterprises are much more interested in the Esmeraldas EPZ. Through the interview survey, 50 likely investors have been identified in Ecuador.

4) It is desirable that the Government of Ecuador will assist ZOFREE by arranging in such ways that the associated external costs to be incurred for the construction of the Esmeraldas EPZ will be financed separately by each cooperating agency and institution. Such external costs will involve i) relocation of access road to the fishing port by the Port Authority of Esmeraldas, ii) water supply facilities (conduit pipe and distribution tank) by IEOS. The external costs are estimated to be US\$524,000 in total. Water charges will be directly paid by users to each institution. Unless the external costs are born by these institutions, FIRR of the Esmeraldas EPZ will drop to 13.5%.

5) The internal cost of construction will amount to approximately US\$5.61 million. It is desirable that the Government of Ecuador will disburse from its budget at least local currency portion of the infrastructure construction cost, amounting to approximately US\$1.0 million equivalent. The Government contribution will make the financial position of ZOFREE more favorable. In the event that the Government's contribution is unrealizable, it is requested that CFN will decide on equity participation and loans for working capital, and that BEDE will finance the local currency portion of the construction cost. Finally, the construction of the Esmeraldas EPZ by commercial loans will make the ZOFREE's financial position difficult to be managed.

6) Incentives granted by the Law of Free Zones are welcomed by potential investors. However, through the interview survey, it has been pointed out that some conditions of the Law of Free Zones and its Regulations are rather obstructive for foreign investors. These conditions are i) uniform fee of 2% to be paid to CONAZOFRA, ii) 10% higher minimum wages, and iii) profit sharing with workers. It is desirable that MICIP takes note of these concerns by the potential investors and take appropriate measures to remove, if possible, such impeding factors in the promotion of investments.

7) Availability of reliable and at least minimally trained labor at competitive rates is one of the major issues that the foreign investors will require in making decision on investments. Training of labors and supervisory workers is, in this sense, quite important and it is suggested that the existing SECAP facilities in Esmeraldas be utilized to its maximum extent. Likewise, friction-free labor relations are also important as noted by prospective investors.

8) Access to shipping with adequate frequency is prerequisite for the port based EPZ. At present, the port of Esmeraldas is under-utilized while the port of Guayaquil is overcrowded. It is desirable that more cargo lines be directed to Esmeraldas port not only to handle cargoes for the Esmeraldas EPZ but to load and unload cargoes to be generated in and around Quito areas. Reliable shipments and on-time delivery of products and raw materials are crucial for foreign investors.

9) Even if the Esmeraldas EPZ is constructed as planned through this study, foreign investors will find that Esmeraldas city is not so attractive to live in because of lack of amenity in the city. It is recommended that the Municipality of Esmeraldas develop amenity and social infrastructures in and around Esmeraldas city. Particular attention should be drawn to the improvement of urban drainage system and sewerage system which are improperly



maintained at present. Water supply and telecommunications in Esmeraldas, which are under construction at the moment, are expected to complete by the end of 1992 or well in advance of the commencement of the Esmeraldas EPZ.

10) For the successful implementation of the Esmeraldas EPZ, cooperation and coordination among various institutions are indispensable. In this context, establishment of a Coordination Committee has been proposed in this study. ZOFREE, CENDES and Port Authority of Esmeraldas will be permanent members of the Committee, while Municipality, Customs office, EMELESA, IEOS, IETEL, SECAP, etc. will be asked to join the Committee if and when needed. Without coordination among institutions and without able leadership to be taken by the Committee members, it would not be possible to successfully implement the Esmeraldas EPZ.



## **TABLES**



Table 1-1 STUDY TEAM AND COUNTERPARTS

Name	Position	
<b>CENDES COUNTERPARTS</b>		
Ing. Rodrigo Lucioparedes	General Manager	
Econ. Cesar Marcillo	Chief Counterpart	
Econ. Jaime Cueva	Advisor	
Econ. Eugenia Vallego	Industrial Specialist	
Ing. Eugenio Aleman	Industrial Consultant	
<b>STUDY TEAM</b>		
Mr. Hajime Koizumi	Team Leader	(Nippon Koei Co., Ltd.)
Mr. Masatoshi Akagawa	Sub-Leader, Industrial Planner	(Nippon Koei Co., Ltd.)
Mr. Isamu Asakura	Industrial Planner	(Nippon Koei Co., Ltd.)
Mr. Hiroshi Yamada	Demand Survey Export	(Nippon Koei Co., Ltd.)
Mr. Jiro Watanabe	Demand Survey Export	(Nippon Koei Co., Ltd.)
Mr. Manabu Fujikawa	Institutional Expert	(Regional Planning Int.)
Mr. Keisuke Okazaki	Water Supply-Sewerage	(Nippon Koei Co., Ltd.)
Mr. Yoshitomo Watanabe	Electricity-Telecomm.	(Nippon Koei Co., Ltd.)
Mr. Shigeo Nishihata	Geotechnical Engineer	(Nippon Koei Co., Ltd.)
Mr. Ryoichi Nishimura	Port Engineer	(Nippon Koei Co., Ltd.)
Mr. Riei Nagase	Economist	(Nippon Koei Co., Ltd.)

Table 2-1 GROSS DOMESTIC PRODUCT BY SECTORS

	(\$/ mill., 1975 prices)									Sector **	Sub-sector
	1981	1982	1983	1984	1985	1986	1987	1988*	1989*		
<b>1. AGRICULTURE, HUNTING &amp; FISHERY</b>	22,647	23,101	19,891	22,007	24,178	26,656	27,323	29,678	30,581	18.9	100.0
Banana, Coffee, Cacao	4,023	4,208	2,718	3,071	3,955	4,000	3,183	3,592	3,916		12.8
Other Agricultural Products	7,680	7,112	5,457	6,734	7,011	8,595	8,880	9,902	10,336		33.8
Animal Production	7,578	8,043	8,043	8,326	8,737	8,990	8,967	9,606	10,127		33.1
Forestry, logging	1,593	1,739	1,724	1,662	1,712	1,879	1,935	1,827	1,813		5.9
Fishery & Hunting	1,773	1,999	1,949	2,214	2,763	3,192	4,358	4,751	4,389		14.4
GROWTH RATE (% per annum)	6.8	2.0	-13.9	10.6	9.9	10.2	2.5	8.6	3.0		
<b>2. PETROLEUM AND MINING</b>	15,992	15,527	19,893	21,879	23,875	24,513	11,107	25,319	23,501	14.5	100.0
1) PETROLEUM (Crude oil&Gas, Oil refinery)	15,493	15,019	19,105	20,864	22,861	23,348	9,925	23,811	21,987		93.6
2) OTHER MINING	499	508	788	1,015	1,014	1,165	1,182	1,508	1,514		6.4
GROWTH RATE (% per annum)	6.1	-2.9	28.1	10.0	9.1	2.7	-54.7	128.0	-7.2		
<b>3. MANUFACTURING</b>	29,159	29,584	29,183	28,643	28,710	28,241	28,729	29,381	28,272	17.4	100.0
1) FOOD PRODUCTS	12,177	12,315	11,518	11,335	10,848	10,770	11,075	11,025	9,900		35.0
Meat and Fish	2,539	2,661	2,571	2,434	2,156	2,663	2,878	3,072	2,798		
Grains and Baking	1,588	1,586	1,528	1,446	1,383	1,379	1,523	1,798	1,596		
Sugar	1,166	786	688	845	841	755	756	690	709		
Miscellaneous foods	3,572	3,772	3,485	3,328	3,179	2,779	2,553	2,364	1,723		
Beverages	2,795	2,891	2,796	2,793	2,775	2,698	2,879	2,658	2,632		
Manufactured Tobacco	517	619	450	489	514	496	486	443	442		
2) TEXTILES / GARMENTS	6,395	6,536	6,752	6,659	6,580	5,936	5,944	5,818	5,921		20.9
3) WOOD & FURNITURE	1,489	1,580	1,614	1,575	1,574	1,678	1,681	1,664	1,659		5.9
4) PAPER AND PRINTING	1,770	1,877	1,803	1,767	1,882	1,992	2,082	2,147	2,196		7.8
5) CHEMICALS - RUBBER	1,901	1,814	1,970	1,726	1,819	1,856	1,790	1,899	1,809		6.4
6) MINERALS	3,557	3,671	3,563	3,473	3,773	3,615	3,334	3,740	3,584		12.7
7) MACHINERY/EQUIPMENT	968	926	932	886	971	1,102	1,251	1,383	1,568		5.5
8) OTHER MANUFACTURING	882	865	1,031	1,222	1,263	1,292	1,572	1,705	1,635		5.8
GROWTH RATE (% per annum)	8.8	1.5	-1.4	-1.9	0.2	-1.6	1.7	2.3	-3.8		
<b>4. ELECTRICITY , GAS &amp; WATER</b>	1,117	1,241	1,426	1,836	1,833	2,232	2,616	2,789	2,871	1.8	
GROWTH RATE (% per annum)	0.2	11.1	14.9	28.8	-0.2	21.8	17.2	6.6	2.9		
<b>5. CONSTRUCTION</b>	7,239	7,285	6,728	6,583	6,742	6,841	7,011	6,359	6,282	3.9	
GROWTH RATE (% per annum)	4.8	0.6	-7.6	-2.2	2.4	1.5	2.5	-9.3	-1.2		
<b>6. TRADE AND HOTELS</b>	25,032	25,562	22,537	23,467	24,268	24,793	25,397	26,256	26,392	16.3	
GROWTH RATE (% per annum)	1.0	2.1	-11.8	4.1	3.4	2.2	2.4	3.4	0.5		
<b>7. TRANSPORT/COMMUNICATION</b>	10,517	10,687	10,511	10,914	11,506	12,571	12,829	13,486	14,175	8.7	
GROWTH RATE (% per annum)	4.8	1.6	-1.6	3.8	5.4	9.3	2.1	5.1	5.1		
<b>8. FINANCIAL SERVICES/REAL ESTATE</b>	18,274	18,590	18,972	17,679	18,162	18,579	21,095	22,978	19,629	12.1	
GROWTH RATE (% per annum)	3.3	1.7	2.1	-6.8	2.7	2.3	13.5	8.9	-14.6		
<b>9. OTHER SERVICES</b>	8,240	8,710	9,098	9,336	9,529	9,773	10,067	10,190	10,478	6.5	
GROWTH RATE (% per annum)	8.3	5.7	4.5	2.9	1.7	2.6	3.0	1.2	2.8		
<b>10. Others</b>	15,226	14,978	12,646	14,882	15,251	14,937	12,842	10,430	14,963		
<b>TOTAL (GDP)</b>	153,443	155,265	150,885	157,226	164,054	169,136	159,016	176,866	177,144		
GROWTH RATE (% per annum)	3.9	1.2	-2.8	4.2	4.3	3.1	-6.0	11.2	0.2		

Remarks : \* Provisional

\*\* The share represents the ratio of each categorie's value-added to total GDP excluding the item of 10. Others.

Source: Banco Central del Ecuador, "CUENTAS NACIONALES DEL ECUADOR: 1950 - 1989", 1990

Table 2-2 BALANCE OF PAYMENT IN ECUADOR

	(US\$ mill.)					
	1985	1986	1987	1988	1989	1990
Balance on Current Account	114	-553	-1,131	-505	-472	-136
Trade Balance	1,294	543	-33	619	661	1,003
Exports	2,905	2,186	2,021	2,202	2,354	2,714
- Petroleum & Derivatives	1,927	983	817	976	1,147	1,409
- Others	978	1,203	1,204	1,226	1,207	1,305
Imports	-1,611	-1,643	-2,054	-1,583	-1,693	-1,711
Balance of Services & Rent	-1,260	-1,141	-1,230	-1,221	-1,230	-1,239
Transfers	80	45	132	97	97	100
Capital Account	-66	319	1,043	486	854	538
International Reserve	-48	234	88	19	-382	-402

Source: Banco Central del Ecuador

Table 2-3 EXPORTS AND IMPORTS BY MAJOR COMMODITIES

	(US\$ mill., FOB for Export, CIF for Import)					
	1985	1986	1987	1988	1989	1990*
<b>I. EXPORT</b>						
1. Primary Commodities **	2,566	1,878	1,636	1,861	2,026	2,345
1) Crude Petroleum	1,825	912	646	875	1,033	1,258
2) Bananas	220	263	267	298	370	468
3) Shrimp	156	288	383	387	328	340
4) Coffee	191	299	192	152	142	104
2. Manufactured Goods **	339	308	291	332	328	369
1) Petroleum Derivatives	102	70	78	101	115	150
2) Manufactured Cacao	79	77	57	48	53	56
3) Manufactured Coffee	18	29	19	18	20	26
4) Metal Manufacture	2	5	7	11	18	13
5) Chemicals & Pharmacy	9	9	12	10	7	9
<b>TOTAL EXPORT</b>	<b>2,905</b>	<b>2,185</b>	<b>1,928</b>	<b>2,193</b>	<b>2,354</b>	<b>2,714</b>
<b>II. IMPORT **</b>						
1. Industrial Materials	769	726	792	708	839	811
2. Capital Goods for Industry	339	408	501	404	389	376
3. Transport Equipment	153	230	202	249	206	205
4. Consumer Goods	152	170	208	165	184	179
<b>TOTAL IMPORT</b>	<b>1,767</b>	<b>1,810</b>	<b>2,158</b>	<b>1,714</b>	<b>1,855</b>	<b>1,862</b>

Remarks : \* Provisional

\*\* Only major goods are presented in the table.

Source : Banco Central del Ecuador, "INFORMACION ESTADISTICA QUINCENAL", May 31, 1991



Table 2-4 NUMBER OF ENTERPRISES, EMPLOYEES AND PRODUCTION BY INDUSTRIES

	(1) No. of Enterprises	(2) No. of Employees	(3) Value of Production (S./mill.)	(4) (2)/(1)	(5) (3)/(1) (S./mill./ enterprise)	(6) (3)/(2) (S./mill./ employee)
1. Food and Beverages	388	35,144	410,067	91	1,057	12
2. Textile, Apparel & Leather	284	20,444	98,921	72	348	5
3. Wood & Furniture	113	6,713	24,181	59	214	4
4. Paper & Printing	113	7,433	78,653	66	696	11
5. Chemical, Rubber & Plastic	236	16,085	262,386	68	1,112	16
6. Non-metal & Basic Metal	120	7,074	107,881	59	899	15
7. Machinery	261	9,034	141,497	35	542	16
8. Other Manufacturing	22	689	3,547	31	161	5
Total	1,537	102,616	1,127,133	67	733	11

Source: INEC, "Encuesta Anual de Manufactura y Minería, Tomo I", 1988

Table 2-5 GEOGRAPHICAL DISTRIBUTION OF MANUFACTURING ENTERPRISES (1988) (RATIO TO TOTAL IN ECUADOR)

	Pichincha Province			Guayas Province			Azuay Province		
	No. of Enterprises	No. of Employees	Value of Production (S./mill.)	No. of Enterprises	No. of Employees	Value of Production (S./mill.)	No. of Enterprises	No. of Employees	Value of Production (S./mill.)
1. Food and Beverage	28	24	28	29	38	46	8	4	2
2. Textile, Apparel & Leather	60	72	77	11	10	11	14	8	6
3. Wood & Furniture	56	48	51	13	12	13	11	19	15
4. Paper & Printing	30	24	15	42	52	66	8	5	1
5. Chemical, Rubber & Plastic	39	30	21	57	50	37	12	8	6
6. Non-metal & Basic Metal	31	19	22	24	36	50	28	17	9
7. Machinery	48	53	58	26	31	34	12	9	5
8. Other Manufacturing	45	37	35	9	6	21	36	31	28
Total	42	41	34	27	34	40	12	9	5

Source: INEC, "Encuesta Anual de Manufactura y Minería, Tomo I", 1988

Table 3-1 POPULATION IN ESMERALDAS PROVINCE

	Esmeraldas Province				Ecuador	
	Esmeraldas Canton		Province as a whole		Nos.	%
	Nos.	%	Nos.	%		
Year 1990						
Urban	98,065	56.8	134,379	43.7	5,305,911	55.1
Rural	74,584	43.2	172,811	56.3	4,316,697	44.9
Total	172,649	100.0	307,190	100.0	9,622,608	100.0
Year 1982						
Urban	90,360	64.3	118,185	47.7	3,938,800	49.0
Rural	50,153	35.7	129,685	52.3	4,099,635	51.0
Total	140,513	100.0	247,870	100.0	8,038,435	100.0
Average Growth Rate (% per year)						
Urban	1.03		1.62		3.79	
Rural	5.09		3.65		0.65	
Total	2.61		2.72		2.27	

Sources: INEC, "RESULTADOS PROVISIONALES: V Censo de Poblacion y IV de Vivienda", 1991  
INEC, "IV Censo de Poblacion"

Table 3-2 POPULATION STRUCTURE WITH REGARD TO ECONOMIC ACTIVITIES  
IN ESMERALDAS PROVINCE IN 1982 ( POPULATION OVER 12 YEAR-OLD)

	Canton of Esmeraldas		Province of Esmeraldas		Ecuador	
	Nos.	%	Nos.	%	Nos. (1000)	%
<b>I. URBAN AREA</b>						
1. Economically Active	22784	39.0	29894	39.6	1206.9	43.9
a. Employed	20582	35.2	27011	35.8	1146.6	41.8
b. Unemployed *	2202	9.7	2883	9.6	60.2	5.0
- Always	377	1.7	444	1.5	15.7	1.3
- First Time	1825	8.0	2439	8.2	44.5	3.7
2. Economically Inactive	32770	56.1	41816	55.4	1471.8	53.6
a. Students	16987	29.1	20893	27.7	676.8	24.6
b. Household Work	13737	23.5	18299	24.2	707.4	25.8
c. Retired & Pensioners	479	0.8	554	0.7	31.2	1.1
d. Others	1567	2.7	2070	2.7	56.5	2.1
3. Not Declared	2868	4.9	3836	5.1	67.6	2.5
4. Total	58422	100.0	75546	100.0	2746.2	100.0
<b>II. RURAL AREA</b>						
1. Economically Active	13173	44.5	35907	47.2	1139.2	44.6
a. Employed	12245	41.4	33873	44.5	1091.8	42.7
b. Unemployed *	928	7.0	2034	5.7	47.4	4.2
- Always	96	0.7	261	0.7	8.8	0.8
- First Time	832	6.3	1773	4.9	38.6	3.4
2. Economically Inactive	15319	51.8	37707	49.6	1355.7	53.1
a. Students	5079	17.2	11309	14.9	392.9	15.4
b. Household Work	9051	30.6	23890	31.4	901.7	35.3
c. Retired & Pensioners	50	0.2	110	0.1	7.6	0.3
d. Others	1139	3.9	2398	3.2	53.4	2.1
3. Not Declared	1082	3.7	2459	3.2	599.4	23.5
4. Total	29574	100.0	76073	100.0	2554.3	100.0
<b>III. TOTAL</b>						
1. Economically Active	35957	40.9	65801	43.4	2346.1	44.3
a. Employed	32827	37.3	60884	40.2	2238.4	42.2
b. Unemployed *	3130	8.7	4917	7.5	107.7	4.6
- Always	473	1.3	705	1.1	24.6	1.0
- First Time	2657	7.4	4212	6.4	83.1	3.5
2. Economically Inactive	48089	54.6	79523	52.4	2827.5	53.3
a. Students	22066	25.1	32202	21.2	1069.7	20.2
b. Household Work	22788	25.9	42189	27.8	1609.2	30.4
c. Retired & Pensioners	529	0.6	664	0.4	38.8	0.7
d. Others	2706	3.1	4468	2.9	109.9	2.1
3. Not Declared	3950	4.5	6295	4.2	126.9	2.4
4. Total	87996	100.0	151619	100.0	5300.5	100.0

Remarks: \* Unemployment Ratio = Nos. of Unemployed / Nos. of Economically Active Population x 100

Source: INEC, "IV Censo de Poblacion",

INSTITUTO DE INVESTIGACIONES ECONOMICAS, "INDICADORES Y ESTADISTICAS BASICAS DE LA ECONOMIA ECUATORIANA"

Table 3-3 ECONOMICALLY ACTIVE POPULATION BY SECTOR IN 1982

	Canton of Esmeraldas		Province of Esmeraldas		Ecuador	
	Nos.	%	Nos.	%	Nos.(1000)	%
<b>1. URBAN AREA</b>						
Agriculture, fishing & hunting	1,642	7.2	3,384	11.3	62.5	5.2
Mining	92	0.4	97	0.3	2.9	0.2
Manufacturing	2,431	10.7	3,302	11.0	190.9	15.8
Electricity, gas & water	240	1.1	266	0.9	9.7	0.8
Construction	1,554	6.8	1,888	6.3	100.8	8.4
Commerce	3,495	15.3	4,544	15.2	222	18.4
Transportation	1,302	5.7	1,586	5.3	75	6.2
Finances	235	1.0	264	0.9	41.7	3.5
Services	9,297	40.8	11,311	37.8	427.1	35.4
Other activities	671	2.9	813	2.7	29.6	2.5
New labors	1,825	8.0	2,439	8.2	44.5	3.7
<b>Total</b>	<b>22,784</b>	<b>100.0</b>	<b>29,894</b>	<b>100.0</b>	<b>1206.9</b>	<b>100.0</b>
<b>2. RURAL AREA</b>						
Agriculture, fishing & hunting	8,369	63.5	26,371	73.4	724.5	63.6
Mining	22	0.2	122	0.3	4.5	0.4
Manufacturing	741	5.6	1,441	4.0	95.6	8.4
Electricity, gas & water	24	0.2	39	0.1	3.5	0.3
Construction	253	1.9	429	1.2	57.2	5.0
Commerce	746	5.7	1,687	4.7	49.9	4.4
Transportation	102	0.8	246	0.7	26.3	2.3
Finances	10	0.1	14	0.0	2.4	0.2
Services	1,964	14.9	3,574	10.0	127.8	11.2
Other activities	110	0.8	211	0.6	9	0.8
New labors	832	6.3	1,773	4.9	38.6	3.4
<b>Total</b>	<b>13,173</b>	<b>100.0</b>	<b>35,907</b>	<b>100.0</b>	<b>1139.2</b>	<b>100.0</b>
<b>3. TOTAL</b>						
Agriculture, fishing & hunting	10,011	27.8	29,755	45.2	787.0	33.5
Mining	114	0.3	219	0.3	7.4	0.3
Manufacturing	3,172	8.8	4,743	7.2	286.5	12.2
Electricity, gas & water	264	0.7	305	0.5	13.2	0.6
Construction	1,807	5.0	2,317	3.5	158.0	6.7
Commerce	4,241	11.8	6,231	9.5	271.9	11.6
Transportation	1,404	3.9	1,832	2.8	101.3	4.3
Finances	245	0.7	278	0.4	44.1	1.9
Services	11,261	31.3	14,885	22.6	554.9	23.7
Other activities	781	2.2	1,024	1.6	38.6	1.6
New labors	2,657	7.4	4,212	6.4	83.1	3.5
<b>Total</b>	<b>35,957</b>	<b>100.0</b>	<b>65,801</b>	<b>100.0</b>	<b>2346.1</b>	<b>100.0</b>

Source: INEC, "IV Censo de Poblacion"

INSTITUTO DE INVESTIGACIONES ECONOMICAS, "INDICADORES Y ESTADISTICAS BASICAS DE LA ECONOMIA ECUATORIANA",

Table 3-4 POPULATION BY EDUCATION LEVEL ( 6-YEAR OLD AND OLDER ) IN 1982

	Canton of Esmeraldas		Province of Esmeraldas		Ecuador	
	Nos.	%	Nos.	%	Nos.(1000)	%
<b>1. URBAN AREA</b>						
No Education	7725	10.6	11517	12.1	268.3	8.1
Center of Literacy	375	0.5	614	0.6	14.8	0.4
Primary		46.6		48.5		46.4
1 - 3	14451	19.8	20196	21.2	540.4	16.3
4 - 6	19603	26.8	25970	27.3	998.6	30.1
Secondary		25.7		23.5		28.5
1 - 3	11495	15.7	13965	14.7	530.8	16.0
4 - 6	7253	9.9	8459	8.9	414.1	12.5
Higher Education		5.2		4.4		8.3
1 - 3	2031	2.8	2239	2.4	147.3	4.4
4 & over	1748	2.4	1916	2.0	127.7	3.8
No declaration	8406	11.5	10347	10.9	277.6	8.4
<b>Total</b>	<b>73087</b>	<b>100.0</b>	<b>95223</b>	<b>100.0</b>	<b>3319.6</b>	<b>100.0</b>
<b>2. RURAL AREA</b>						
No Education	10679	27.5	32230	32.1	870.7	26.6
Center of Literacy	620	1.6	1880	1.9	77.4	2.4
Primary		55.4		53.5		58.2
1 - 3	11572	29.8	29764	29.6	877.4	26.8
4 - 6	9921	25.6	23919	23.8	1029.2	31.4
Secondary		8.0		5.2		7.7
1 - 3	2066	5.3	3650	3.6	174.7	5.3
4 - 6	1048	2.7	1577	1.6	76.6	2.3
Higher Education		1.3		0.8		0.9
1 - 3	258	0.7	446	0.4	18.1	0.6
4 & over	246	0.6	337	0.3	11.7	0.4
No declaration	2400	6.2	6588	6.6	140.5	4.3
<b>Total</b>	<b>38810</b>	<b>100.0</b>	<b>100391</b>	<b>100.0</b>	<b>3276.3</b>	<b>100.0</b>
<b>3. TOTAL</b>						
No Education	18404	16.4	43747	22.4	1139	17.3
Center of Literacy	995	0.9	2494	1.3	92.2	1.4
Primary		49.6		51.0		52.2
1 - 3	26023	23.3	49960	25.5	1417.8	21.5
4 - 6	29524	26.4	49889	25.5	2027.8	30.7
Secondary		19.5		14.1		18.1
1 - 3	13561	12.1	17615	9.0	705.5	10.7
4 - 6	8301	7.4	10036	5.1	490.7	7.4
Higher Education		3.8		2.5		4.6
1 - 3	2289	2.0	2685	1.4	165.4	2.5
4 & over	1994	1.8	2253	1.2	139.4	2.1
No declaration	10806	9.7	16935	8.7	418.1	6.3
<b>Total</b>	<b>111897</b>	<b>100.0</b>	<b>195614</b>	<b>100.0</b>	<b>6595.9</b>	<b>100.0</b>

Source: INEC, "CENSOS NACIONALES DE POBLACION 1982"

Table 3-5 AGRICULTURAL PRODUCTION IN ESMERALDAS PROVINCE

Major Products	1983	1984	1985		1988		1989	
	(Tons)	(Tons)	(Tons)	Share to National Production (%)	(Tons)	Share to National Production (%)	(Tons)	Share to National Production (%)
Field Corn	2,449	9,205	7,033	2.1	2,334	0.8	3,202	0.8
Bell Pepper	288	294	320	5.1	527	5.9	19	0.2
Avocado	964	1,023	1,198	8.3	1	0.0	668	5.0
Lemon	546	472	646	2.9	108	1.0	129	0.8
Orange	20,412	13,226	5,938	2.6	5,223	6.0	2,444	3.4
Papaya	1,690	1,314	2,701	8.8	141	0.6	163	0.9
Banana	154,584	191,792	175,757	18.6	310,582	8.8	308,373	8.5
Grapefruit	13,427	10,750	2,250	7.6	595	21.6	2,959	39.4
Coconut	49,932	36,462	15,000	39.1	8,105	7.8	12,510	34.9
African Palm	61,625	61,787	68,779	15.0	192,275	28.5	272,000	30.1
Mnila Hemp	3,840	8,562	2,250	22.6	1,030	4.7	682	4.9
Cacao Beans	1,513	1,816	5,841	4.5	6,682	7.9	6,619	8.0
Coffee Beans	3,493	3,960	4,364	3.6	14,039	4.1	5,989	4.6
Rubber	159	269	270	15.0	110	10.4	84	6.6

Source : Estimation by Ministry of Agriculture

Table 3-6 INDUSTRIAL AND MINING PRODUCTION BY PROVINCE

(Sucre million)									
Province	1970	%	1975	1981	1985	1986	1987	%	Average Growth Rate 1970-87 (% p.a.n.)
1. Coast Zone	6175.7	64.9	16,724.1	54,745.6	169,003.9	248,407.8	348,463.3	56.3	26.8
Esmeraldas	10.7	0.1	158.3	1,921.3	11,747	22,341.2	30,712.1	5.0	59.7
El Oro	92.6	1.0	483.6	718.6	1,780.7	3,688	12,162.7	2.0	
Guayas	5,178.5	54.5	14,386.7	46,013.7	136,907.3	19,590.8	273,631	44.2	
Los Rios	27	0.3	161.7	774.7	1,880.4	2,169.1	3,515.6	0.6	
Manabi	866.9	9.1	1,533.9	5,317.3	16,688.5	24,301.5	28,441.9	4.6	
2. Mountain Zone	3,326.2	35.0	11,057.8	41,232.1	134,599.6	196,788.9	267,717.3	43.3	29.4
3. Oriental Zone	7.4	0.1	26.1	31.8	818.2	1,079.1	24,416.9	0.4	40.6
4. Total	9,509.3	100.0	27,808	96,009.5	304,421.7	446,275.8	618,597.5	100.0	27.8

Source: INEC "Encuestas de Manufactura y Minería", elaborated by CENDES



Table 3-7 MANUFACTURING INDUSTRIES IN ESMERALDAS PROVINCE

Industries	No. of Establishments*	No. of Workers Employed	Value of Production (Sucre million)	Value-added (Sucre million)
Foodstuffs, Beverages & Tobacco	2	90	862	419
Wood Industry & Wood Products	5	623	1,346	385
Manufacture of Chemicals (Oil & Coal Derivatives), Rubber & Plastics	1	979	79,645	6,216
Total	8	1,692	81,853	7,020

Source : INEC, "Annual Manufacturing & Mining Survey", 1988

Remark \* Establishments of which number of employees was more than ten.

Table 4-1 COMPARATIVE ANALYSIS ON MAJOR ITEMS BETWEEN THE LAW OF FREE ZONES AND THE RELATING EXISTING LAWS

Items	Law of Free Zones	Existing Laws
Customs and Foreign Trade Procedures	The import and export of merchandise, goods, raw materials and other items are exempted from customs taxes, duty and fees.	All imports are subject to ad valorem duties on the basis of their CIF value with the exceptions provided for in the law.
Tax Procedures	Users of the Free Zones are exonerated from income tax, value added tax, the payment of provincial, municipal or any other taxes.  Users are exempted from taxes on patents and all taxes in force regarding production, use of patents and trade marks, technology transfers and profit repatriation (remittance abroad).	The annual income obtained are the object of the income tax. The law establishes progressive and proportional taxes.  There are other taxes on trade marks, patents, sales on foreign currency, selective consumption, and so forth. Municipal taxes are paid on real estates, excise taxes and so on.
Currency Exchange and Financial Procedures	Users shall enjoy complete freedom in all currency exchange transactions among each other between free zones and abroad. Local commercial banks may provide endorsements for credit granted by banks abroad to free zone users.	The law on International Exchange establishes the official intervention exchange market, and orders to deposit in that market the foreign currency originating from exports and such foreign currency received by public and private institutions.
Procedures for Treatment of Capital	Foreign investment in free zones shall not be subject to existing foreign capital treatment procedure.	Legal regulations concerning foreign investment are set in a general manner under the Andean Pact's Decision 220. Under the Pact, there are some requirements for investment such as future nationalization through a fade-out agreement, minimum investment, transfer of foreign currencies.
Labor Procedures	Labor relations between free zone users and their workers shall be subjected to the labor laws in force, with the modifications - Labor contracts in free zones are by nature temporary. Therefore, they shall not be the provision of Article 14 of the Labor Code, null.  The wages of workers engaged by free zone users must be at least 10% higher than the minimum wages received by workers of the same sector.  Free zone user's workers shall be entitled to profit-sharing as provided for under the labor code.	The Labor Code, which contains labor regulations and develops the constitutional principles, are applied. The following are the principal obligation of employers towards their workers: to pay the compensation owed; to protect the worker's health and safety; to establish dining elementary school, stores and so on with conditions.  The employer or the company will distribute 15% of the net profits among workers. In addition there are minimum wages for certain categories of workers.  15 or more workers may organize a labor committee with a minimum of one-half of the workers of the company with the purpose of entering into collective labor contract.

Remark: Article 14 of the Labor Code shows that no contract shall be less than one year.

Sources: The Law of Free Zones, The Labor Code, "Legal Aspects of Doing Business in Ecuador" (1989), "Guide for Investment in Ecuador" (by CENDES), and other related information on laws

Table 4-2 LEGISLATION AND REGULATIONS ON FREE ZONES IN THE ANDEAN COUNTRIES

	Ecuador	Bolivia	Colombia	Peru	Venezuela
<u>Legislation</u>					
Law/Decree	Yes	Pending	Yes	Yes	Yes
Date	1991	-	1985-86	Pending	1974
Administration	Mixed	Private	State	State	State
Objectives	Foreign trade	Exports; Jobs	Foreign trade; industry; regional development	Foreign industry; foreign exchange	Foreign trade; industry; regional development
Sectors	Trade & industry	Industry	Trade & industry	Trade & industry	Trade & industry
<u>Incentives</u>					
Tax/duty exemptions on imports of:					
Merchandise	Yes	Yes	Yes	Yes	Yes
National inputs	Yes	Yes	Yes	Yes	Yes
Equipment, machinery	Yes	Yes	Yes	Yes	Yes
Inputs, raw materials	Yes	Yes	Yes	Yes	Yes
Income	20 yrs	20 yrs	Permanent	15 yrs	5 yrs
Exports	Yes	20 yrs	Yes	No	Yes
Local taxes	Yes	10 yrs	Yes	15 yrs	10 yrs
Foreign currency handling	Free	No	Free	Free	Through Central Bank
Customs procedures	More flexible	No	More flexible	More flexible	More flexible
Access to local market	Yes, paying duty	Yes, paying duty	Yes, paying duty	Yes, paying duty	Yes, for national products
Requirements	Not specified	Minimum \$250,000 capital	Not specified	Not specified	Not specified
<u>Foreign Investment</u>					
Decision 24/220; Cartagena Agreement	Follows Decisions	Follows most of Decisions	Follows most of Decisions	Hasn't be regulated	Follows all Decisions
Other laws/decrees	Foreign investment law	Foreign investment law	Decrees	Supreme Decree	—
<u>Labor laws</u>					
Special system for EPZ	Temporary hiring	No	No	Temporary hiring	Fixed-term contracts

Source: CAF, "Study of Industrial Free Zones in the Andean Countries and in Costa Rica, Mexico and the Dominican Republic", 1989  
(A part of information was updated by the JICA Study Team.)

Table 5-1 PRE-SCREENING OF INDUSTRIAL CATEGORIES

ISIC	Category of Industries	ISIC	Category of Industries
311-312	Food manufacturing	355	Rubber products
3111	Slaughtering, preserving meat	3559	Not classified (gloves, mats, etc.)
3113	Canning of fruit, vegetable	356	Plastic products not classified (plastic cup, mats, etc.)
3114	Canning of fish, crustacea	381	Fabricated metal products
3115	Vegetable, animal oil	3819	Not classified (metal cans, etc.)
3119	Cocoa, chocolate	382	Machinery
3121	Not classified (spice, coffee, etc.)	3825	Office machinery
3122	Prepared animal feeds	3829	Not classified (pump, air con., etc.)
313	Beverage industries	383	Electrical machinery, apparatus
3134	Soft drinks and water	3831	Industrial machinery
321	Textile	3832	Radio, television, etc
3212	Made-up textile goods	3833	Electrical housewares
3215	Cordage, rope & twine	3839	Not classified (batteries, etc.)
322	Wearing apparel	384	Transport equipment
323	Leather products	3843	Motor vehicles & parts
3233	Products of leather (luggage, bags)	385	Professional equipment
324	Footwear	3852	Photographic & optical goods
331	Wood & cork' products	3853	Watches & clocks
3311	Sawmills & wood product	390	Other manufacturing industries
332	Furniture & fixtures	3901	Jewelry & related articles
341	Paper & paper products	3903	Sporting & athletic goods
3412	Containers & boxes	3909	Not classified (toys, pen, etc.)
352	Other chemical products		
3522	Drug & medicines		
3523	Soap, perfumes, toilet goods		

Table 5-2 NUMBER OF POSSIBLE AND LIKELY INVESTORS IN ECUADOR

Current Location	Possible			Likely			Grand Total		
	Esmeraldas	Other Areas	Total	Esmeraldas	Other Areas	Total	Esmeraldas	Other Areas	Total
Pichincha	34	8	42	22	7	29	56	15	71
Guayas	12	41	53	25	-	25	37	41	78
Azuay	14	12	26	3	3	6	17	15	32
Other Provinces	-	4	4	-	-	-	-	4	4
Grand Total	60	65	125	50	10	60	110	75	185

Table 5-3 PROBABILITY OF INVESTMENT BY INDUSTRY  
(US AND MEXICAN QUESTIONNAIRE SURVEY)

Are you interested in locating your new facility in Esmeraldas EPZ?					
Industry (ISIC)	Frequencies				Total
	Yes	Most Likely	Possibly	No (a)	
Basis (b)	1	1	8	18	28
Percent of total respondents	3.6%	3.6%	28.6%	64.3%	100.0%
Construction (500)	1	100.0%			1 3.6%
Wood Furniture (3320)			1	12.5%	1 3.6%
Apparel (3220)		1	100.0%	3 37.5%	2 11.1% 6 21.4%
Electronics (383)			2	25.0%	5 27.8% 7 25.0%
Food (31)			1	12.5%	4 22.2% 5 17.9%
Unknown (c)			1	12.5%	1 3.6%
Autos and Parts (3843)					3 16.7% 3 10.7%
Men's Toupees (2329)					1 5.6% 1 3.6%
Pens (3909)					1 5.6% 1 3.6%
Thermal Plastics (356)					1 5.6% 1 3.6%
Venture Capital (832)					1 5.6% 1 3.6%

Remarks:

- "No's" include all respondents who answered "No" plus those who indicated "No Interest" elsewhere on the survey form.
- The "Basis" is the total number of firms in the respondent categories. Percentage figures following the subsequent answers are the answers given as a percentage of the "Basis," unless otherwise noted.
- One respondent completed the survey, but did not identify himself or the firm. We were, therefore, unable to determine the respondent's industry.

Table 5-4 CHARACTERISTICS OF REASONABLE PROSPECTS AND LOW PROBABILITY INVESTORS (US AND MEXICAN INVESTORS)

Characteristics	Reasonable Prospects (a)		Low-Probability Investors (a)		All Investors	
Basis (b)	6		35		41	
Percent of total interviews	14.6%		85.4%		100.0%	
Industry: (ISIC)						
Apparel (3220)	3	50.0%	8	22.9%	11	26.8%
Furniture (332)	1	16.7%	0	0.0%	1	2.4%
Electronical Auto Parts (3843)	1	16.7%	0	0.0%	1	2.4%
Industrial Construction (500)	1	16.7%	0	0.0%	1	2.4%
Wholesale/Retail (610)			10	28.6%	10	24.4%
Electronics (383)			6	17.1%	6	14.6%
Seafood Processing (3114)			3	8.6%	3	7.3%
Chocolates (3119)			2	5.7%	2	4.9%
Chemicals (35)			2	5.7%	2	4.9%
Paper Products (34)			1	2.9%	1	2.4%
Metal Nut Manufacturing (3819)			1	2.9%	1	2.4%
Electrical/Cable Wires (3889)			1	2.9%	1	2.4%
Brooms (331)			1	2.9%	1	2.4%
Country of Origin						
United States	5	83.3%	26	74.3%	31	75.6%
Mexico	1	16.7%	9	25.7%	10	24.4%
Has the firm invested overseas before?						
Yes	5	83.3%	13	37.1%	18	43.9%
No	1	16.7%	22	62.9%	23	56.1%
Has the firm taken part in duty-free and drawback (806/807) operations? (c)						
Yes	4	80.0%	6	46.2%	10	55.6%
No	1	20.0%	7	53.8%	8	44.4%
Unknown			3	23.1%	3	16.7%
Annual Sales						
\$1 million or less	0	0.0%	2	5.7%	2	4.9%
\$1 to \$10 million	1	16.7%	3	8.6%	4	9.8%
\$10 to \$50 million	0	0.0%	3	8.6%	3	7.3%
\$50 million or more	4	66.7%	2	5.7%	6	14.6%
No answer	1	16.7%	25	71.4%	26	63.4%
Volume of annual imports/reimports from overseas.						
Only two companies responded to this question. \$40,000,000 and \$5,000,000						
Amount contemplated for an investment project.						
\$300,000 or less	1	16.7%	1	2.9%	2	4.9%
\$300,000 to \$1 million	2	33.3%	0	0.0%	2	4.9%
\$1 to \$5 million	1	16.7%	0	0.0%	1	2.4%
\$5 million or more	0	0.0%	0	0.0%	0	0.0%
No answer	2	33.3%	34	97.1%	36	87.8%

Remarks:

- All telephone and in-person interviews were ranked on a percentile scale of 1 to 10 according to the firm's likelihood of investment. A ranking of 10 is a high-probability investor and 9 is an intermediate-probability investor. Reasonable prospects or likely investors are those with a 9 or a 10 ranking. Rankings 8 through one are low-probability investors.
- The "Basis" is the total number of firms in the high or low categories. The percentage figures following most of the subsequent answers are the answers given as a percentage of the "Basis," unless otherwise noted.
- This question only applies to those firms which have invested abroad before.

Table 5-5 LIKELY INVESTORS (RESULT OF INTERVIEW SURVEY)

No	ISIC Category	Lot size (ha)	Employee	Rental Factory	Remarks	
(Food)	1	3114 Canned food	2.4	60	-	*
	2	3121 Fried potato	0.15	15	X	*
	3	3121 Sea food	0.15	15	X	*
	4	3121 Shark's wing	0.6	15	X	
	5	3122 Animal feed	1.2	60	-	
	6	3113 Canned fruit	n.a	15	X	
	7	3113 Canned fruit	0.6	15	n.a	*
	8	3114 Canned shrimp	2.4	60	-	
	9	3121 Banana flour	n.a	300	-	
	10	3112 Cream, sirup	n.a	n.a	-	
	11	3122 Animal feed	n.a	n.a	n.a	
(Apparel)	1	322 Apparel	0.6	60	X	
	2	322 Blanket, etc.	0.15	15	X	
	3	322 Apparel	0.6	60	X	
	4	3219 Labels	0.15	60	X	*
	5	3219 Labels	0.15	60	X	
	6	322 Undershirt	2.4	60	-	
	7	322 Sport wear	n.a	15	X	
	8	321 Textile	n.a	300	X	
	9	322 Sport shirt	n.a	n.a	n.a	
	10	3219 Labels	n.a	15	-	
	11	322 Apparel	0.15	60	X	
	12	321 Textile	0.15	15	X	
	13	322 Panama hat	n.a	15	-	
	14	322 Sport wear	0.6	150	X	(USA)
	15	322 Under wear	1.2	300	X	(USA)
	16	322 Sleep wear	1.2	300	X	(USA)
(Chemical)	1	3523 Cosmetics	0.15	15	-	
	2	356 Plastic film	0.6	15	-	*
	3	3523 Detergent	0.6	15	-	
	4	356 Plastics	0.15	15	-	
	5	356 Plastics	n.a	60	-	
	6	3523 Soap, cream	0.15	15	X	
	7	356 Plastic bottle	n.a	4	X	
	8	356 Plastic shoes	0.15	300	X	
	9	356 Plastics	0.15	300	-	
	10	356 Film	0.6	15	X	
	11	3529 Tooth paste	n.a	4	X	
	12	356 Plastic shoes	0.6	300	X	
	13	3523 Cologne water	0.6	15	-	
(Wood, furniture)	1	3311 Balsa wood	1.2	15	X	
	2	3311 Wood mills	0.6	15	X	
	3	332 Furniture	0.15	300	n.a	
	4	332 Aluminum window	0.6	60	X	
	5	332 Rattan furniture	0.6	150	X	(Mexico)
(Metal)	1	3812 Water taps	0.6	60	-	
	2	3819 Metal coating	0.15	15	-	
	3	3819 Nickel coating	0.15	15	n.a	
(Electric Device)	1	3833 Lamp	0.15	15	X	
	2	3831 Control device	0.6	60	-	*
	3	3833 Wire harnesses	0.5	100	-	(USA)
(Others)	1	324 Leather	n.a	n.a	n.a	
	2	Banana trader	n.a	300	X	
	3	Car repairing	0.6	15	-	
	4	Developer	0.15	4	X	

Remark: \* Ecuador and foreign enterprise joint venture



Table 6-1 HIGH PROBABILITY INVESTORS BY LOT SIZE

Lot No.	Industrial Category	Lot Size (m2)	No. of Employee	Rental Factory	Remarks	
(Small Size Lot)	S-1	Food(Sea food)	2,100	15	X	*
	S-2	Food(Canned food)	1,500	15	-	*
	S-3	Apparel(Label)	1,900	50	X	*
	S-4	Furniture	1,500	15	-	
	S-5	Apparel(Blanket)	1,800	50	X	
	S-6	Apparel	1,500	40	-	
	S-7	Apparel	1,700	40	X	
	S-8	Apparel	1,500	40	-	
	S-9	Electric(Lamp)	1,500	15	X	
	S-10	Chemical(Cosmetic)	1,500	15	-	
	S-11	Apparel	1,600	40	-	
	S-12	Apparel	1,600	40	-	
	Sub total	19,700	365			
(Medium Size Lot)	M-1	Food	5,100	30	-	*
	M-2	Apparel	6,000	150	X	
	M-3	Apparel(Sport wear)	6,000	150	X	(USA)
	M-4	Apparel	6,000	150	-	
	M-5	Chemical(Plastic film)	6,000	60	-	*
	M-6	Chemical (Plastic shoes)	6,000	150	-	
	M-7	Chemical(Cosmetic)	5,400	50	-	
	M-8	Apparel	5,700	140	-	
	M-9	Electric control device	5,800	60	-	*
	M-10	Metal	5,800	60	-	
	M-11	Furniture(Rattan)	6,500	150	X	(Mexico)
	M-12	Wire harnesses	6,000	100	-	(USA)
	M-13	Wood mills	6,000	15	-	
	Sub total	76,300	1,265			
(Large Size Lot)	L-1	Apparel(Underwear)	12,000	300	X	(USA)
	L-2	Apparel(Sleep wear)	12,000	300	X	(USA)
	L-3	Animal feed	12,000	60	-	
	L-4	Wood	13,000	60	-	
	L-5	Canned food	22,000	100	-	*
	Sub total	71,000	820			
Total		167,000	2,450	10 Lots		
Administrative & service Facility			130			
Grand total		167,000	2,580			

Remark: \*Ecuador and foreign enterprise joint venture

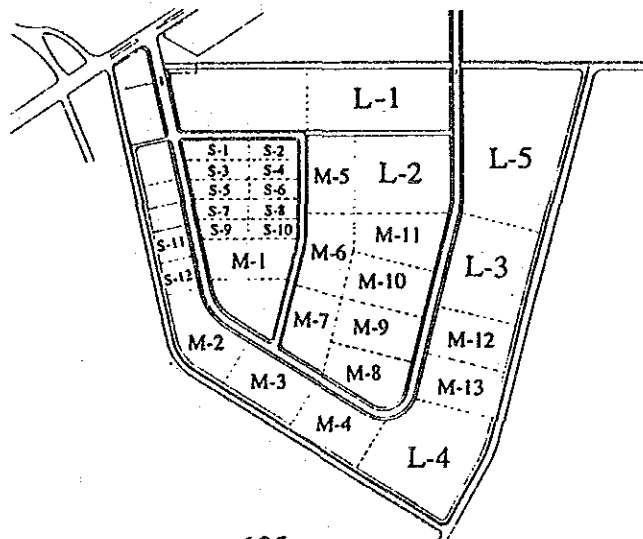


Table 6-2 LAND USE CONFIGURATION

Item	Area (ha)	Ratio (%)	Remarks
I. Factory lot	(16.70)	73.6	
1. Small size lot	1.97		
2. Medium size lot	6.43		
3. Large size lot	8.03		
II. Road	(3.91)	17.2	
1. Boulevard	0.26		
2. Main road	1.50		
3. Sub road	0.50		
4. Pedestrian deck	0.11		
5. Patrol road	0.99		Inclusive of existing access road to the fishing port (0.33ha)
6. Access road to the fishing port	0.55		
III. Administrative facility	(0.30)	1.3	Administration build. and fire station
IV. Service facility	(0.40)	1.8	Service build., gas station (0.05 ha) and bus terminal (0.1 ha)
V. Park	(1.00)	4.3	
1. Sports park	0.60		
2. Park	0.40		
VI. Utility	(0.40)	1.8	
1. Electric sub-station	0.20		
2. Sewage treatment plant	0.10		
3. Water supply tank	0.10		
VII. Total	22.71	100.0	

Table 7-1 ROAD TYPES IN EPZ

(1)	Boulevard	Four (4)-lane road pedestrian should be constructed in the entrance area with the length of 150 m from the gate where the administrative and service facilities are concentrated considering of the control of the traffic flow in and out of various facilities.	<ul style="list-style-type: none"> <li>• Width: 20 m</li> <li>• 4 lanes</li> <li>• Both sides pede.</li> <li>• Pavement: 50 cm</li> </ul>
(2)	Main road	The main road which passes through the EEPZ from the gate to the port services to factory lots, particularly to large size lots.	<ul style="list-style-type: none"> <li>• Width: 16 m</li> <li>• 2 lanes</li> <li>• Both sides pede.</li> <li>• Pavement: 35 cm</li> </ul>
(3)	Sub road	This is the access road to the small size factory lot.	<ul style="list-style-type: none"> <li>• Width: 12 m</li> <li>• 2 lanes</li> <li>• Both sides pede.</li> <li>• Pavement: 35 cm</li> </ul>
(4)	Patrol road	The 4 m width road specified for the patrol activity surrounds the EEPZ. The existing access road to the fishing port between EEPZ and Esmeraldas port shall be utilized as the patrol road after the completion of the new access road.	<ul style="list-style-type: none"> <li>• Width: 4 m</li> <li>• Pavement: 35 cm</li> </ul>
(5)	The access road to the fishing port	The same standard as the existing road shall be reformed at the west and south edge of EEPZ.	<ul style="list-style-type: none"> <li>• Width: 7 m</li> <li>• 2 lanes</li> <li>• Single side pede.</li> <li>• Pavement: 35 cm</li> </ul>
(6)	Pedestrian deck	The exclusive pedestrian way connects factory lots and the entrance area	<ul style="list-style-type: none"> <li>• Width: 6 m</li> <li>• Pavement: 15 cm</li> </ul>

Table 7-2 DAILY WATER USE AND POLLUTANT LOAD

Name of Industry	Water Demand (m <sup>3</sup> /day/ha) /l	Area for Each Lot (Ha)	Water Demand Per Day (m <sup>3</sup> /day)	Unit Pollutant Load /l			Pollutant Load		
				BOD (mg/l)	COD (mg/l)	SS (mg/l)	BOD (kg/day)	COD (kg/day)	SS (kg/day)
S - 1 Food (Sea Food)	294	0.21	61.74	1,200	1,350	425	74.0	83.0	26.0
2 Food	436	0.15	65.40	600	500	500	39.0	33.0	33.0
3 Apparel (Label)	178	0.19	33.82	10	10	50	0.3	0.3	1.7
4 Furniture	29	0.15	4.35	10	10	40	0.04	0.04	0.2
5 Apparel (Blanket)	306	0.18	55.08	10	10	30	0.6	0.6	1.7
6 Apparel	50	0.15	7.50	10	10	30	0.08	0.08	0.2
7 Apparel	50	0.17	8.50	10	10	30	0.09	0.09	0.3
8 Apparel	50	0.15	7.50	10	10	30	0.08	0.08	0.2
9 Electric Lamp	201	0.15	30.15	10	30	100	0.3	0.9	3.0
10 Chemical (Cosmetic)	98	0.15	14.70	350	350	100	5.0	5.0	1.5
11 Apparel	50	0.16	8.00	10	10	30	0.08	0.08	0.2
12 Apparel	50	0.16	8.00	10	10	30	0.08	0.08	0.2
M - 1 Food	294	0.51	149.94	1,200	1,350	425	180.0	202.0	64.0
2 Apparel	50	0.60	30.00	10	10	30	0.3	0.3	0.9
3 Apparel (Sport Wear)	38	0.60	22.80	10	10	30	0.2	0.2	0.7
4 Apparel	50	0.60	30.00	10	10	30	0.3	0.3	0.9
5 Chemical (Plastic Film)	447	0.60	268.20	300	460	100	80.0	123.0	27.0
6 Chemical (Plastic Shoes)	230	0.60	138.00	10	20	50	1.4	2.8	6.9
7 Chemical (Cosmetic)	98	0.54	52.92	350	350	100	18.5	18.5	5.3
8 Apparel	50	0.57	28.50	10	10	30	0.3	0.3	0.9
9 Electric Control Device	84	0.58	48.72	20	40	800	1.0	1.9	39.0
10 Metal	84	0.58	48.72	20	40	800	10.0	1.9	39.0
11 Furniture	16	0.65	10.40	10	10	30	0.1	0.1	0.3
12 Wire Harness	52	0.60	31.20	10	20	100	0.3	0.6	3.1
13 Woodmill	29	0.60	17.40	3,000	5,900	4,100	52.0	103.0	71.0
L - 1 Apparel (Underwear)	28	1.20	33.60	10	10	30	0.3	0.3	1.0
2 Apparel (Sleepwear)	20	1.20	24.00	10	10	30	0.2	0.2	0.7
3 Animal Feed	274	1.20	328.80	1,200	480	25	395.0	158.0	8.0
4 Wood	34	1.30	44.20	10	10	30	0.4	0.4	1.3
5 Food (Canned)	387	2.20	851.40	600	500	500	511.0	426.0	426.0
Total	-	16.70	2,463.54	-	-	-	1,362	1,163	764

Remark: /l Unit demand and unit load are assumed based on the result of demand survey and the data of Japanese industrial design standard.

Table 7-3 RUNOFF DISCHARGE FOR DRAINAGE SYSTEM

Pipe No.	Area (ha)	Accumulated Area (ha)	Discharge (m <sup>3</sup> /s)	Design of Drainage (mm)	Velocity (m/s)	Flow Capacity (m <sup>3</sup> /s)	Gradient (%)
1	0.36	-	0.048	U 300 x 240	0.580	0.056	2
2	0.26	0.62	0.082	U 300 x 360	0.639	0.094	2
3	0.37	0.99	0.131	U 450 x 450	0.790	0.226	2
4	1.50	2.49	0.329	U 600 x 600	0.991	0.512	2
5	0.54	3.03	0.401	U 600 x 600	0.991	0.512	2
	to 11						
6	0.29	-	0.038	U 300 x 300	0.614	0.076	2
7	0.50	0.79	0.105	U 360 x 360	0.691	0.122	2
8	0.42	1.21	0.160	U 450 x 450	0.790	0.226	2
9	0.50	1.71	0.226	U 450 x 450	0.790	0.226	2
10	0.68	2.39	0.316	U 600 x 600	0.991	0.512	2
11	0.36	5.78	0.765	U 600 x 600	1.469	0.765	4.4
12	1.25	7.03	0.930	U 600 x 600	1.854	0.960	8.0
	to 15						
13	0.33	-	0.044	U 240 x 240	0.541	0.044	2
14	0.17	0.50	0.066	U 360 x 360	0.691	0.122	2
15	0.71	8.24	1.090	φ 1100	1.282	1.218	1.8
	to 17						
16	0.41	-	0.054	U 300 x 240	0.580	0.056	2
17	-	8.65	1.144	φ 1100	1.282	1.218	1.8
	to the sea						
18	0.30	-	0.040	U 240 x 240	0.541	0.044	2
19	0.48	0.78	0.103	U 360 x 360	0.691	0.122	2
20	0.29	1.07	0.142	U 450 x 450	0.790	0.226	2
21	0.56	1.63	0.216	U 450 x 450	0.790	0.226	2
22	0.69	2.32	0.307	U 600 x 600	0.991	0.512	2
23	0.35	2.67	0.353	U 600 x 600	0.991	0.512	2
24	0.65	3.32	0.439	U 600 x 600	0.991	0.512	2
	to 29						
25	0.34	-	0.045	U 300 x 240	0.580	0.056	2
26	0.41	0.75	0.099	U 360 x 360	0.691	0.122	2
27	0.40	1.15	0.152	U 450 x 450	0.790	0.226	2
28	0.33	1.48	0.196	U 450 x 450	0.790	0.226	2
29	0.53	5.33	0.705	U 600 x 600	1.366	0.708	3.8
	to the sea						
30	0.25	-	0.033	U 240 x 240	0.541	0.044	2
31	0.42	0.67	0.089	U 300 x 360	0.639	0.094	2
32	0.42	1.09	0.144	U 450 x 450	0.790	0.226	2
	to 35						
33	0.24	-	0.032	U 240 x 240	0.541	0.044	2
34	0.44	0.68	0.090	U 300 x 360	0.639	0.094	2
35	0.55	2.32	0.307	φ 600	1.193	0.337	3.5
	to 39						
36	0.33	-	0.044	U 240 x 240	0.541	0.044	2
37	0.51	0.84	0.110	U 360 x 360	0.691	0.122	2
38	0.30	1.14	0.151	U 450 x 450	0.790	0.226	2
39	-	3.46	0.458	φ 700	1.203	0.463	2.9
	to the sea						
40	0.40	-	0.053	U 300 x 240	0.580	0.056	2
41	0.41	0.81	0.107	U 360 x 360	0.661	0.100	2
	to 44						
42	0.36	-	0.048	U 300 x 240	0.580	0.056	2
43	0.41	0.77	0.102	U 360 x 360	0.691	0.122	2
44	0.62	2.20	0.291	φ 600	1.193	0.337	3.5
	to 46						
45	0.41	-	0.054	U 300 x 240	0.580	0.056	2
46	-	2.61	0.345	φ 700	1.203	0.463	2.9
	to the sea						
47	0.32	-	0.042	U 240 x 240	0.541	0.044	2
48	0.39	0.71	0.094	U 300 x 360	0.639	0.094	2
49	0.29	1.00	0.132	U 450 x 450	0.790	0.226	2
50	0.22	1.22	0.161	U 450 x 450	0.790	0.226	2
51	0.37	1.59	0.210	U 450 x 450	0.790	0.226	2
52	0.62	2.21	0.292	U 600 x 600	0.991	0.512	2
53	0.59	2.80	0.370	U 600 x 600	0.991	0.512	2
	to 56						
54	0.36	-	0.048	U 300 x 240	0.580	0.056	2
55	0.21	0.57	0.075	U 300 x 300	0.614	0.076	2
56	-	3.37	0.446	φ 700	1.203	0.463	2.9

Table 7-4 GENERATION OF SOLID WASTE

Name of Industry	Combustible (1) /1 (Ton/Ha)	Incombustible Solid (2) /1 (Ton/Ha)	Area of Each Lot (3) (Ha)	Combustible (1) x (3) Ton	Incombustible (2) x (3) Ton
S - 1 Food (Sea Food)	0.40	0.09	0.21	0.084	0.019
2 Food	0.40	0.09	0.15	0.060	0.014
3 Apparel (Label)	0.08	-	0.19	0.015	-
4 Furniture	0.34	0.03	0.15	0.051	0.005
5 Apparel (Blanket)	0.08	0.01	0.18	0.014	0.002
6 Apparel	0.08	0.01	0.15	0.012	0.002
7 Apparel	0.08	0.01	0.17	0.014	0.002
8 Apparel	0.08	0.01	0.15	0.012	0.002
9 Electric Lamp	0.04	0.09	0.15	0.006	0.014
10 Chemical (Cosmetic)	0.29	0.07	0.15	0.044	0.011
11 Apparel	0.08	0.01	0.16	0.013	0.002
12 Apparel	0.08	0.01	0.16	0.013	0.002
M - 1 Food	0.40	0.09	0.51	0.204	0.046
2 Apparel	0.08	0.01	0.60	0.048	0.006
3 Apparel (Sport Wear)	0.08	0.01	0.60	0.048	0.006
4 Apparel	0.08	0.01	0.60	0.048	0.006
5 Chemical (Plastic Film)	0.29	0.07	0.60	0.174	0.042
6 Chemical (Plastic Shoes)	0.29	0.07	0.60	0.174	0.042
7 Chemical (Cosmetic)	0.29	0.07	0.54	0.157	0.038
8 Apparel	0.08	0.01	0.57	0.046	0.006
9 Electric control Device	0.17	3.00	0.58	0.099	1.740
10 Metal	0.17	3.00	0.58	0.099	1.740
11 Furniture	0.34	0.03	0.65	0.221	0.020
12 Wire Harness	0.17	3.00	0.60	0.102	1.800
13 Woodmill	0.34	0.03	0.60	0.204	0.018
L - 1 Apparel (Underwear)	0.08	0.01	1.20	0.096	0.012
2 Apparel (Sleepwear)	0.08	0.01	1.20	0.096	0.012
3 Animal Feed	0.40	0.09	1.20	0.480	0.108
4 Wood	0.34	0.03	1.30	0.442	0.039
5 Food (Canned)	0.40	0.09	2.20	0.880	0.198
Total				3.956	

Remark: /1 Unit demand and unit load are assumed based on the result of demand survey and the data of Japanese industrial design standard.

Table 8-1 RESULTS OF WATER QUALITY EXAMINATION

Point No.	1	2	3	4	5
Location	Polluted Water Area in the Sea	Clean Water Area in the Sea	Downstream of the River	Upperstream of the River	Chamber of Pumping Station
Time	7:40	8:00	8:45	9:20	10:40
Atmospheric Temperature (°C)	26	28	30	30	35
Water Temperature (°C)	23	24	25	26	30
pH	7.70	7.90	7.66	7.40	8.10
Transparency (m)	1.40	1.70	0.80	0.60	-
Turbidity (NTU) <sup>1</sup>	0.90	0.75	7.50	14.0	-
Color (Pt/co) <sup>2</sup>	10	5	20	30	-
Dissolved Oxygen (mg/l)	6.20	6.70	7.10	6.90	-
BOD (mg/l)	7.5	6.3	13.5	1.2	510
COD (mg/l)	577	106	462	19	
SS (mg/l)	8720	8180	584	60	568
Coliform (MPN/100 ml)					
Total	3600	20	460	9	110 x 10 <sup>6</sup>
Fatal	0	0	15	3	35 x 10 <sup>6</sup>

Remarks: <sup>1</sup> Nephelometric Turbidity Unit  
<sup>2</sup> Platinum/Cobalt

Table 9-1 RESPONSIBLE AGENCIES OF FACILITY

Item	Construction		Maintenance/Operation	
	ZOFREE	Other agency	ZOFREE	Other agency
1. Land readjustment	O	-	-	-
2. Road				
• Roads in EEPZ (Main, Sub, others)	O	-	O	-
• Access road to fishing port	-	O (Port Authority)	-	O (Port Authority)
3. Water supply facility (conduit pipe, distribution tank, pipe)	-	O (IEOS)	-	O (Municipality)
4. Sewerage (Sewage treatment plant, sewer)	O	-	O	-
5. Drainage	O	-	O	-
6. Solid waste disposal	O	-	O	-
7. Electric facility (Substation, electric line)	/1	O (EMELESA)	-	O (EMELESA)
8. Telecommunication facility	-	O (IETEL)	-	O (IETEL)
9. Standard factory (10 factories)	O	-	O	-
10. Administrative facility				
• ZOFREE office, etc.	O	-	O	-
• Fire station	O	-	-	O
• Post office	O	-	-	O
11. Service facility				
• Bank, restaurant, etc.	O	-	O	-
• Clinic, etc.	O	-	O	-
• Gasoline station	-	O	-	O
• Bus terminal	O	-	O	-
12. Others (park, sports facility, fence)	O	-	O	-

Remark: /1 ZOFREE will construct the building of substation.



Table 11-1 SUMMARY OF CONSTRUCTION COST (INTERNAL COST)

(Unit: \$1,000)

Item	Foreign Currency	Local Currency	Total
<b>I Construction Cost</b>			
1 Land leveling	0	132	132
<b>2 Infrastructure</b>			
1) Road	0	91	91
2) Drainage	0	326	326
3) Water supply	0	0	0
4) Sewerage	1,029	265	1,294
5) Solid Waste Disposal	0	217	217
6) Electric facility	0	50	50
7) Telecommunication	0	0	0
8) Sub total	1,029	950	1,979
3 Standard factory	242	1,749	1,990
4 Administrative facility	9	86	95
5 Service facility	9	90	99
6 Others	0	105	105
7 Sub total	1,288	3,112	4,400
<b>II Engineering and Administration Cost</b>	103	249	352
<b>III Promotion Cost</b>	227	157	384
<b>IV Physical Contingency</b>	139	336	475
<b>Total</b>	<b>1,757</b>	<b>3,854</b>	<b>5,611</b>

Remarks: /1 At June 1991 prices

/2 Land is subsidized by Port Authority.

Table I1-2 SUMMARY OF CONSTRUCTION COST (EXTERNAL COST)

(Unit : \$1,000)

Item	Foreign Currency	Local Currency	Total
<b>I Construction Cost</b>			
<b>I Infrastructure</b>			
1) Access Road to fishing port	0	16	16
2) Water supply	152	256	408
3) Sub total	152	272	424
2 Gasoline station	2	16	18
3 Sub total	154	288	441
<b>II Engineering and Administration Cost</b>	12	23	35
<b>III Promotion Cost</b>	0	0	0
<b>IV Physical Contingency</b>	17	31	48
<b>Total</b>	<b>182</b>	<b>342</b>	<b>524</b>

Remarks: /1 At June 1991 prices

          /2 Land is subsidized by Port Authority.

Table 11-3 SUMMARY OF CONSTRUCTION COST  
(INTERNAL AND EXTERNAL COST)

(Unit : \$1,000)

Item	Foreign Currency	Local Currency	Total
I Construction Cost			
1 Land leveling	0	132	132
2 Infrastructure			
1) Road	0	107	107
2) Drainage	0	326	326
3) Water supply	152	256	408
4) Sewerage	1,029	265	1,294
5) Solid Waste Disposal	0	217	217
6) Electric facility	0	50	50
7) Telecommunication	0	0	0
8) Sub total	1,181	1,222	2,402
3 Standard factory	242	1,749	1,990
4 Administrative facility	9	86	95
5 Service facility	11	107	117
6 Others	0	105	105
7 Sub total	1,441	3,400	4,841
II Engineering and Administration Cost	115	272	387
III Promotion Cost	227	157	384
IV Physical Contingency	156	367	523
Total	1,939	4,196	6,135

Remarks: /1 At June 1991 prices

/2 Land is subsidized by Port Authority.

Table 11 - 4 DISBURSEMENT SCHEDULE OF PROJECT COST (INTERNAL COST)

Cost Items	(US\$ 1000, June 1991 prices)											
	1992		1993		1994		1995		TOTAL		1996 & thereafter	
	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.
<b>I. CONSTRUCTION COST</b>												
1. Land Leveling	0	132	0	0	0	0	0	0	0	0	0	132
2. Infrastructure												
1) Road (Main / Submain Road)	0	0	0	91	0	0	0	0	0	0	0	91
2) Drainage	0	109	0	217	0	0	0	0	0	0	0	326
3) Waiver Supply	0	0	0	0	0	0	0	0	0	0	0	0
4) Sewerage	343	88	431	686	177	863	0	0	0	0	1,029	265
5) Solid Waste Disposal	0	0	0	217	217	0	0	0	0	0	0	217
6) Electric Facility	0	0	0	50	50	0	0	0	0	0	0	50
7) Telecommunication	0	0	0	0	0	0	0	0	0	0	0	0
Sub-total	343	197	540	686	753	1,438	0	0	0	0	1,029	950
3. Standard Factory	0	0	0	20	143	163	46	332	378	176	1,273	1,449
4. Administrative Facility	0	0	0	9	86	95	0	0	0	0	9	86
5. Service Facility (Exclu. Gas Station)	0	0	0	0	0	0	0	0	0	9	90	99
6. Park, Sports park	0	0	0	0	0	0	0	0	0	58	58	58
7. Others (Gate, Fence, Bus Terminal)	0	0	0	0	47	47	0	0	0	0	0	47
Total	343	329	672	714	1,029	1,743	46	332	378	185	1,421	1,606
<b>II. ENGINEERING AND ADMINISTRATION</b>	27	26	54	57	82	139	4	27	30	15	114	128
<b>III. PROMOTION COST</b>	32	22	55	65	45	110	65	45	110	65	45	110
<b>IV. PHYSICAL CONTINGENCY</b>	37	36	73	77	111	188	5	36	41	20	154	173
<b>V. TOTAL</b>	440	413	853	913	1,267	2,181	119	440	559	284	1,733	2,018
											1,757	3,854
											5,611	
<b>O &amp; M COST</b>												
<b>I. REMUNERATION</b>												
1. Main Staff	0	17	17	0	42	42	0	53	53	0	64	64
2. Others (Guard, Driver etc.)	0	0	0	0	0	0	0	10	10	0	19	19
Sub-total	0	17	17	0	42	42	0	62	62	0	83	83
<b>II. DIRECT COST OF O &amp; M</b>												
1. Infrastructure	0	0	0	0	0	0	0	75	75	0	75	75
2. Standard Factory	0	0	0	0	0	0	0	3	3	1	10	11
3. Administrative facility	0	0	0	0	0	0	0	1	1	0	1	1
4. Service Building	0	0	0	0	0	0	0	0	0	0	0	0
5. Others	0	0	0	0	0	0	0	1	1	0	1	1
Sub-total	0	0	0	0	0	0	0	80	81	1	87	88
<b>III. TOTAL</b>	0	17	17	0	42	42	1	143	143	1	170	171
											5	201

Table 11 - 5 DISBURSEMENT SCHEDULE OF PROJECT COST (INTERNAL AND EXTERNAL COST)

Cost Items	(US\$ 1000, June 1991 prices)														
	1992			1993			1994			1995			Total		
	F.C.	L.C.	Total	F.C.	L.C.	Total	F.C.	L.C.	Total	F.C.	L.C.	Total	F.C.	L.C.	Total
<b>I. CONSTRUCTION COST</b>															
1. Land Leveling	0	132	132	0	0	0	0	0	0	0	0	0	0	0	0
2. Infrastructure															
1) Road	0	0	0	0	107	107	0	0	0	0	0	0	0	0	0
2) Drainage	0	109	109	0	217	217	0	0	0	0	0	0	0	0	0
3) Water Supply	51	85	136	101	171	272	0	0	0	0	0	0	152	256	408
4) Sewerage	343	88	431	686	177	863	0	0	0	0	0	0	1,029	265	1,294
5) Solid Waste Disposal	0	0	0	0	217	217	0	0	0	0	0	0	0	217	217
6) Electric Facility	0	0	0	0	50	50	0	0	0	0	0	0	0	50	50
7) Telecommunication	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-total	394	282	676	787	939	1,726	0	0	0	0	0	0	1,181	1,222	2,402
3. Standard Factory	0	0	0	20	143	163	46	332	378	176	1,273	1,449	242	1,749	1,990
4. Administrative Facility	0	0	0	9	86	95	0	0	0	0	0	0	9	86	95
5. Service Facility	0	0	0	0	0	0	0	0	0	11	107	117	11	107	117
6. Park, Sports park	0	0	0	0	0	0	0	0	0	0	58	58	0	58	58
7. Others (Gate, Fence, Bus Terminal)	0	0	0	0	47	47	0	0	0	0	0	0	0	47	47
TOTAL	394	414	808	815	1,215	2,031	46	332	378	186	1,438	1,624	1,441	3,400	4,841
<b>II. ENGINEERING AND ADMINISTRATION</b>	31	33	65	65	97	162	4	27	30	15	115	130	115	272	387
<b>III. PROMOTION COST</b>	32	22	55	65	45	110	65	45	110	65	45	110	227	157	384
<b>IV. PHYSICAL CONTINGENCY</b>	42	45	87	88	131	219	5	36	41	20	155	175	156	367	523
<b>V. TOTAL</b>	500	515	1,015	1,034	1,489	2,522	119	440	559	286	1,753	2,039	1,939	4,196	6,135
<b>O &amp; M COST</b>															
<b>I. REMUNERATION</b>															
1. Main Staff	0	17	17	0	20	20	0	42	42	0	53	53	0	64	64
2. Others (Guard, Driver etc.)	0	0	0	0	0	0	0	10	10	0	10	10	0	19	19
Sub-total	0	17	17	0	20	20	0	42	42	0	62	62	0	83	83
<b>II. DIRECT COST OF O &amp; M</b>															
1. Infrastructure															
2. Standard Factory															
3. Administrative facility															
4. Service Building															
5. Others															
Sub-total															
TOTAL	0	17	17	0	20	20	0	42	42	4	148	152	4	175	180
<b>1996 &amp; thereafter</b>															
F.C.															
L.C.															
Total															
F.C.															
L.C.															
Total															
F.C.															
L.C.															
Total															

Table 11-6 RENTAL CHARGE IN OTHER EPZs

Country	EPZ	Rental Cost (\$/in <sup>2</sup> /month)				Remarks
		SFB (Floor)	Lot (Land)	W.H. (Floor)	Office B (Floor)	
1.	Colombia					
	Barranquilla	0.38~0.84	0.26	-	-	
	Cartagena	2.5	0.3 / <sup>1</sup> ~1.5 / <sup>2</sup>	1% of CIF value	-	Warehouse: 1,400m <sup>2</sup> (floor) x 9 ridges
2.	Costa Rica	2.25~2.66	-	-	6.1	
3.	Rep. Dominica	2.64~3.0	1.67~	-	5.4	SFB: 1,300m <sup>2</sup> (floor) x 10 units
4.	Mexico	3.7~4.3	1.12~1.31	0.25/100 lb	-	

Remarks : /1: Open air lot; /2: Roofed lot

Sources : "Study of Industrial Free Zone in the Andean Countries and in Costa Rica, Mexico and Dominican Republic", The Andean Development Corporation, Oct. 1989"

"Tax-Free Trade Zones of the World", Walter H. Diamond and Dorothy B. Diamond, Jan. 1991

Table 11 - 7 ZOFREE'S REVENUE BUILDUP

Item	1994	1995	1996 - 2010
<b>A. OWN BUILT FACTORY</b>			
1. Lot Area (ha)			
First Located Firms	1.47	1.47	1.47
Second Located Firms		4.42	4.42
Third Located Firms			5.66
Total	1.47	5.89	11.55
2. Revenue at constant terms			
First Located Firms			
Unit Revenue (US\$/m2/month)	0.5	0.5	0.5
Unit Revenue (US\$/ha/year)	60,000	60,000	60,000
Annual Revenue (US\$/year)	88,200	88,200	88,200
Second Located Firms			
Unit Revenue (US\$/m2/month)		0.5	0.5
Unit Revenue (US\$/ha/year)		60,000	60,000
Annual Revenue (US\$/year)		265,200	265,200
Third Located Firms			
Unit Revenue (US\$/m2/month)			0.5
Unit Revenue (US\$/ha/year)			60,000
Annual Revenue (US\$/year)			339,600
Total Revenue (US\$/year)	88,200	353,400	693,000
<b>B. PRE-BUILT FACTORY</b>			
1. Floor Area			
First Located Firms	0.15	0.15	0.15
Second Located Firms		0.35	0.35
Third Located Firms			1.33
Total	0.15	0.5	1.83
2. Revenue at Constant Terms			
First Located Firms (ha)			
Unit Revenue (US\$/m2/month)	2.5	2.5	2.5
Unit Revenue (US\$/ha/year)	300,000	300,000	300,000
Annual Revenue (US\$/year)	45,000	45,000	45,000
Second Located Firms			
Unit Revenue (US\$/m2/month)		2.5	2.5
Unit Revenue (US\$/ha/year)		300,000	300,000
Annual Revenue (US\$/year)		105,000	105,000
Third Located Firms			
Unit Revenue (US\$/m2/month)			2.5
Unit Revenue (US\$/ha/year)			300,000
Annual Revenue (US\$/year)			399,000
Total	45,000	150,000	549,000
<b>C. USERS OF OFFICE BUILDING*</b>			
1. Area (m2)			
			630
2. Revenue at constant terms			
Unit Revenue (US\$/m2/month)			5
Unit Revenue (US\$/m2/year)			60
Annual Revenue (US\$/year)			37,800
<b>D. CHARGE ON SEWERAGE &amp; WASTE DISPOSAL</b>			
Annual Revenue (US\$/year)	66,950	66,950	66,950
<b>TOTAL</b>	<b>200,150</b>	<b>570,350</b>	<b>1,346,750</b>

Remark: \* Including lunch service, kiosk, restaurant, clinic, tenant and gas station.

Table 11 - 8 FINANCIAL BENEFIT AND COST STREAM  
( INTERNAL COST)

(US\$ 1000 at 1991 June prices)

Year	COST			BENEFIT**	NET BENEFIT (B - C)
	Initial Cost	OMR* Cost	Total		
1991	0	17	17	0	-17
1992	853	20	873	0	-873
1993	2,181	42	2,222	0	-2,222
1994	559	143	702	200	-502
1995	2,018	171	2,189	570	-1,619
1996	0	206	206	1,347	1,141
1997	0	206	206	1,347	1,141
1998	0	206	206	1,347	1,141
1999	0	206	206	1,347	1,141
2000	0	206	206	1,347	1,141
2001	0	206	206	1,347	1,141
2002	0	206	206	1,347	1,141
2003	0	206	206	1,347	1,141
2004	0	206	206	1,347	1,141
2005	0	206	206	1,347	1,141
2006	0	360	360	1,347	987
2007	0	206	206	1,347	1,141
2008	0	206	206	1,347	1,141
2009	0	206	206	1,347	1,141
2010	0	206	206	1,347	1,141
FIRR =					15.4 %

\* O & M cost and Replacement cost

\*\* Unit Price of Lot = US\$ 0.5/m<sup>2</sup>

Table 11 - 9 FINANCIAL BENEFIT AND COST STREAM  
( INTERNAL AND EXTERNAL COST)

(US\$ 1000 at 1991 June prices)

Year	COST			BENEFIT**	NET BENEFIT (B - C)
	Initial Cost	OMR* Cost	Total		
1991	0	17	17	0	-17
1992	1,015	20	1,035	0	-1,035
1993	2,522	42	2,564	0	-2,564
1994	559	152	711	200	-511
1995	2,039	180	2,219	570	-1,648
1996		215	215	1,347	1,132
1997		215	215	1,347	1,132
1998		215	215	1,347	1,132
1999		215	215	1,347	1,132
2000		215	215	1,347	1,132
2001		215	215	1,347	1,132
2002		215	215	1,347	1,132
2003		215	215	1,347	1,132
2004		215	215	1,347	1,132
2005		215	215	1,347	1,132
2006		369	369	1,347	978
2007		215	215	1,347	1,132
2008		215	215	1,347	1,132
2009		215	215	1,347	1,132
2010		215	215	1,347	1,132
FIRR =					13.5 %

\* O & M cost and Replacement cost

\*\* Unit Price of Lot = US\$ 0.5/m<sup>2</sup>



Table 11 - 10 PROJECT COST (INTERNAL COST)

Cost Items	(\$/ mill. Current prices)														
	1992			1993			1994			1995			TOTAL		
	F.C.	L.C.	Total	F.C.	L.C.	Total	F.C.	L.C.	Total	F.C.	L.C.	Total	F.C.	L.C.	Total
<b>I. CONSTRUCTION COST</b>															
1. Land Leveling	0	152	152	0	0	0	0	0	0	0	0	0	0	152	152
2. Infrastructure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1) Road (Main / Submain Road)	0	0	0	0	105	105	0	0	0	0	0	0	0	105	105
2) Drainage	0	125	125	0	250	250	0	0	0	0	0	0	0	375	375
3) Water Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4) Sewerage	394	102	496	789	203	992	0	0	0	0	0	0	1,183	305	1,488
5) Solid Waste Disposal	0	0	0	0	250	250	0	0	0	0	0	0	0	250	250
6) Electric Facility	0	0	0	0	58	58	0	0	0	0	0	0	0	58	58
7) Telecommunication	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-total	394	227	621	789	866	1,654	0	0	0	0	0	0	1,183	1,092	2,275
3. Standard Factory	0	0	0	23	165	187	53	382	435	202	1,464	1,666	278	2,011	2,289
4. Administrative Facility	0	0	0	10	99	109	0	0	0	0	0	0	10	99	109
5. Service Facility (Exclu. Gas Station)	0	0	0	0	0	0	0	0	0	10	104	114	10	104	114
6. Park, Sports park	0	0	0	0	0	0	0	0	0	0	67	67	0	67	67
7. Others (Gate, Fence, Bus Terminal)	0	0	0	0	54	54	0	0	0	0	0	0	0	54	54
Total	394	378	773	821	1,183	2,005	53	382	435	213	1,635	1,847	1,481	3,579	5,060
<b>II. ENGINEERING AND ADMINISTRATION</b>															
	32	30	62	66	95	160	4	31	35	17	131	148	118	286	405
<b>III. PROMOTION COST</b>															
	37	26	63	75	52	126	75	52	126	75	52	126	261	181	441
<b>IV. PHYSICAL CONTINGENCY</b>															
	43	41	83	89	128	216	6	41	47	23	177	199	160	387	546
<b>V. TOTAL</b>	506	475	981	1,050	1,457	2,508	137	506	643	327	1,994	2,321	2,020	4,432	6,432
<b>VI. PRICE CONTINGENCY</b>															
	114	107	220	879	1,220	2,099	241	888	1,129	1,025	6,247	7,272	2,258	8,462	10,720
<b>GROUND TOTAL</b>	619	582	1,202	1,929	2,678	4,607	378	1,394	1,772	1,352	8,240	9,592	4,279	12,894	17,175
<b>O &amp; M COST</b>															
<b>I. REMUNERATION</b>															
1. Main Staff	0	19	19	0	48	48	0	61	61	0	73	73	0	77	77
2. Others (Guard, Driver etc.)	0	0	0	0	0	0	0	11	11	0	22	22	0	22	22
Sub-total	0	19	19	0	48	48	0	72	72	0	95	95	0	99	99
<b>II. DIRECT COST OF O &amp; M</b>															
1. Infrastructure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Standard Factory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Administrative facility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4. Service Building	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>III. TOTAL</b>	0	19	19	0	48	48	1	164	165	2	195	197	6	231	237
<b>IV. PRICE ESCALATION</b>															
	0	0	0	0	5	5	0	40	40	1	288	289	5	612	617
<b>GROUND TOTAL</b>	0	19	19	0	28	28	0	88	88	2	452	454	7	807	814

Remarks: 1) Exchange rate: 1US\$ = S/1.150; 2) Inflation rate: 56% per annum; 3) Disbursement at the beginning of year except for 1992 (at the middle of year)

Table 11 - 11 PROJECTION OF INCREASE IN EQUITY OF ZOFREE

Case 1 (without CFN's participation)				(S/. million in Current Prices)			
	Equity	Equity	O&M + Promotion*	Equity	Interests	Tax on	Interests
	Employed	'+ Repayment	Unemployed	Receivable**	Interests after Tax		
1991	208	19	19	189	2	0	2
1992	191	60	60	131	63	5	58
1993	189	189	504	0	0	0	0
1994	0	0	2,361	0			

Remarks: \* Local portion of O&M and promotion costs

\*\* Interests receivable in 1991 is calculated on the paid capital of S/. 5 million as of June, 1991.  
S/.208 million is scheduled to be paid by the end of 1991.

Case 2 (with CFN's participation)				(S/. million in Current Prices)			
	Equity*	Equity	O&M + Promotion**	Equity	Interests	Tax on	Interests
	Employed	'+ Repayment	Unemployed	Receivable***	Interests after Tax		
1991	208	19	19	189	2	0	2
1992	607	60	60	547	263	21	242
1993	789	504	504	285	137	11	126
1994	411	411	2,361	0			

Remarks: \* CFN is assumed to give ZOFREE S/.208 million, resulting in its share of 50% of the increased stock in 1992.

\*\* Local portion of O&M and promotion costs

\*\*\* Interests receivable in 1991 is calculated on the paid capital of S/. 5 million as of June, 1991.  
S/.208 million is scheduled to be paid by the end of 1991.

Table 11 - 12 SIMPLIFIED INCOME AND CASH FLOW FORECASTS  
( ALTERNATIVE 1 : Case 1)\*

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2010	
(\$/ mill., Current Prices)																		
<b>REVENUE</b>																		
Gross Revenue	0	0	0	479	2,284	8,551	13,146	19,832	29,560	43,715	64,310	94,276	137,876	201,315	293,618	427,918	1,923,234	
<b>COST**</b>																		
Operating cost (Promo., O&M)	19	105	319	802	1,335	1,469	2,203	3,305	4,957	7,436	11,154	16,731	25,096	37,645	56,467	84,700	428,796	
Interest & Other Charges	0	28	247	397	708	1,040	1,473	1,882	2,311	2,588	2,617	2,109	1,085	660	0	0	0	
1) CFN (Foreign Portion)	0	119	1,504	2,105	5,925	5,737	5,474	4,729	3,984	3,239	2,495	1,750	1,038	482	0	0	0	
2) BEDE	0	0	2	199	583	1,493	2,413	3,746	5,287	7,407	9,658	11,743	12,099	7,374	877	0	0	
3) CFN (Working Capital)	0	147	1,752	2,701	7,216	8,270	9,359	10,356	11,682	13,234	14,770	15,602	14,222	8,516	877	0	0	
Sub-total	19	252	2,072	3,502	8,551	9,739	11,563	13,661	16,640	20,670	25,924	32,333	39,318	46,160	57,344	84,700	428,796	
Total Cost																		
<b>NET INCOME</b>	-19	-252	-2,072	-3,024	-6,267	-1,188	1,583	6,171	12,921	23,046	38,386	61,943	98,558	155,154	236,274	343,218	1,494,438	
<b>CASH FLOW</b>																		
<b>SOURCES OF FUNDS***</b>																		
Net Income	-19	-252	-2,072	-3,024	-6,267	-1,188	1,583	6,171	12,921	23,046	38,386	61,943	98,558	155,154	236,274	343,218	1,494,438	
Equity	19	191	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Government Contribution	0	619	1,929	380	1,359	0	0	0	0	0	0	0	0	0	0	0	0	
Loan Receipt	0	551	2,583	1,252	8,027	0	0	0	0	0	0	0	0	0	0	0	0	
1) CFN (Foreign Portion)	0	16	1,952	4,976	13,423	20,686	35,040	50,027	69,392	91,324	113,520	123,691	86,680	0	0	0	0	
2) BEDE	0	1,186	6,464	6,607	22,808	20,686	35,040	50,027	69,392	91,324	113,520	123,691	86,680	0	0	0	0	
3) CFN (Working Capital)	0	1,124	4,392	3,584	16,541	19,498	36,623	56,198	82,313	114,369	151,906	185,634	185,238	155,154	236,274	343,218	1,494,438	
Sub-total	0	1,124	4,392	3,584	16,541	19,498	36,623	56,198	82,313	114,369	151,906	185,634	185,238	155,154	236,274	343,218	1,494,438	
Total Sources																		
<b>USES OF FUNDS</b>																		
Project Investment	0	1,124	4,375	1,425	9,071	0	0	0	0	0	0	0	0	0	0	0	0	
Loan Repayment	0	0	0	0	0	577	3,037	4,888	8,717	12,794	18,778	21,796	10,095	10,506	0	0	0	
1) CFN (Foreign Portion)	0	0	0	69	392	548	1,551	1,551	1,551	1,551	1,551	1,483	1,160	1,003	0	0	0	
2) BEDE	0	0	0	17	2,090	7,079	18,374	32,035	49,759	72,045	100,024	131,576	162,356	173,983	122,595	23,402	0	
3) CFN (Working Capital)	0	0	0	17	2,159	7,470	19,498	36,623	56,198	82,313	114,369	151,906	185,634	185,238	134,104	23,402	0	
Sub-total	0	0	0	17	2,159	7,470	19,498	36,623	56,198	82,313	114,369	151,906	185,634	185,238	134,104	23,402	0	
Total Uses	0	1,124	4,392	3,584	16,541	19,498	36,623	56,198	82,313	114,369	151,906	185,634	185,238	134,104	23,402	0	0	
<b>SURPLUS (DEFICIT)</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21,050	212,871	343,218	1,494,438
<b>CUMULATIVE SURPLUS</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21,050	233,921	577,139	

Remarks:

\* Alternative 1: CFN(Foreign portion), BEDE(Local portion), CFN(Working Capital), Case 1: Equity without CFN and others)

\*\* ZOFREE exempts from tax. Depreciation is excluded.

\*\*\* Depreciation is excluded.

Table 11 - 13 SIMPLIFIED INCOME AND CASH FLOW FORECASTS  
(ALTERNATIVE 1: Case 2)\*

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2010
(\$/ mill., Current Prices)																	
<b>REVENUE</b>																	
Gross Revenue	0	0	0	479	2,284	8,551	13,146	19,832	29,560	43,715	64,310	94,276	137,876	201,315	293,618	427,918	1,923,234
<b>COST**</b>																	
Operating cost (Promo., O&M)	19	105	319	802	1,335	1,469	2,203	3,305	4,957	7,436	11,154	16,731	25,096	37,645	56,467	84,700	428,796
Interest & Other Charges																	
1) CFN (Foreign Portion)	0	28	247	397	708	1,040	1,473	1,882	2,311	2,588	2,617	2,109	1,085	660	0	0	0
2) BEDE	0	119	1,504	2,105	5,925	5,737	5,474	4,729	3,984	3,239	2,495	1,750	1,038	482	0	0	0
3) CFN (Working Capital)	0	0	0	86	407	1,218	1,982	3,074	4,341	5,777	7,121	7,793	5,603	731	0	0	0
Sub-total	0	147	1,751	2,589	7,040	7,994	8,929	9,685	10,636	11,604	12,233	11,652	7,726	1,873	0	0	0
Total Cost	19	252	2,070	3,390	8,375	9,463	11,132	12,990	15,594	19,040	23,387	28,383	32,822	39,518	56,467	84,700	428,796
<b>NET INCOME</b>	-19	-252	-2,070	-2,911	-6,092	-912	2,014	6,842	13,967	24,675	40,923	65,893	105,054	161,797	237,151	343,218	1,494,438
<b>CASH FLOW</b>																	
<b>SOURCES OF FUNDS***</b>																	
Net Income	-19	-252	-2,070	-2,911	-6,092	-912	2,014	6,842	13,967	24,675	40,923	65,893	105,054	161,797	237,151	343,218	1,494,438
Equity	19	207	1,079	0													
Government Contribution																	
Loan Receipt:																	
1) CFN (Foreign Portion)	0	619	1,929	380	1,359												
2) BEDE	0	551	2,583	1,252	8,027												
3) CFN (Working Capital)	0	0	854	3,681	10,868	16,775	29,039	40,616	54,704	68,424	77,796	67,962					
Sub-total	0	1,170	5,366	5,313	20,253	16,775	29,039	40,616	54,704	68,424	77,796	67,962					
Total Sources	0	1,124	4,375	2,402	14,162	15,862	31,053	47,458	68,670	93,100	118,719	133,855	105,054	161,797	237,151	343,218	1,494,438
<b>USES OF FUNDS</b>																	
Project Investment	0	1,124	4,375	1,425	9,071												
Loan Repayment																	
1) CFN (Foreign Portion)	0	0	0	0	0	577	3,037	4,888	8,717	12,794	18,778	21,796	10,095	10,506			
2) BEDE	0	0	0	69	392	548	1,551	1,551	1,551	1,551	1,551	1,483	1,160	1,003			
3) CFN (Working Capital)	0	0	0	908	4,699	14,738	26,465	41,019	58,402	78,754	98,390	110,577	90,073	19,566			
Sub-total	0	0	0	977	5,091	15,862	31,053	47,458	68,670	93,100	118,719	133,855	101,328	31,076			
Total Uses	0	1,124	4,375	2,402	14,162	15,862	31,053	47,458	68,670	93,100	118,719	133,855	101,328	31,076	0	0	0
<b>SURPLUS (DEFICIT)</b>	0	0	0	0	0	0	0	0	0	0	0	0	3,727	130,721	237,151	343,218	1,494,438
<b>CUMULATIVE SURPLUS</b>	0	0	0	0	0	0	0	0	0	0	0	0	3,727	134,448	371,598	714,816	

Remarks:  
\* Alternative 1: CFN(Foreign portion), BEDE(Local portion), CFN(Working Capital), Case 2: Equity is assumed to increase by \$/ 765 million in 1992)  
\*\* ZOFREE exempt from tax. Depreciation is excluded.  
\*\*\* Depreciation is excluded.

Table 11 - 14 SIMPLIFIED INCOME AND CASH FLOW FORECASTS  
( ALTERNATIVE 2 : Case 1)\*

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2010
(\$/ mil., Current Prices)																	
<b>REVENUE</b>																	
Gross Revenue	0	0	0	479	2,284	8,551	13,146	19,832	29,560	43,715	64,310	94,276	137,876	201,315	293,618	427,918	1,923,234
<b>COST**</b>																	
Operating cost (Promo., O&M) Interest & Other Charges	19	105	319	802	1,335	1,469	2,203	3,305	4,957	7,436	11,154	16,731	25,096	37,645	56,467	84,700	428,796
1) CFN (Foreign Portion)	0	28	247	397	708	1,040	1,473	1,882	2,311	2,588	2,617	2,109	1,085	660	0		
2) Commercial Bank (Local Portion)	0	0	388	701	4495	0											
3) CFN (Working Capital)	0	0	0	138	465	1,813	2,253	2,128	2,908	2,997	2,316	643	17				
Sub-total	0	28	635	1,236	5,668	2,853	3,726	4,010	5,219	5,585	4,934	2,752	1,102	660	0		
Total Cost	19	133	955	2,038	7,003	4,322	5,930	7,315	10,176	13,021	16,088	19,483	26,198	38,305	56,467	84,700	428,796
<b>NET INCOME</b>	-19	-133	-955	-1,559	-4,720	4,229	7,216	12,517	19,385	30,694	48,222	74,793	111,678	163,010	237,151	343,218	1,494,438
<b>CASH FLOW</b>																	
<b>SOURCES OF FUNDS***</b>																	
Net Income	-19	-133	-955	-1,559	-4,720	4,229	7,216	12,517	19,385	30,694	48,222	74,793	111,678	163,010	237,151	343,218	1,494,438
Equity	19	88	149														
Government Contribution		551	1,889	0	0												
Loan Receipt																	
1) CFN (Foreign Portion)	0	619	1,929	380	1,359												
2) Commercial Bank (Local Portion)	0	0	694	1,252	8,027												
3) CFN (Working Capital)	0	0	1,362	4,053	17,992	17,788	27,659	30,297	29,572	25,248	6,275						
Sub-total	0	619	3,985	5,684	27,378	17,788	27,659	30,297	29,572	25,248	6,275						
Total Sources	0	1,124	5,069	4,125	22,658	22,017	34,875	42,814	48,956	55,942	54,498	74,793	111,678	163,010	237,151	343,218	1,494,438
<b>USES OF FUNDS</b>																	
Project Investment	0	1,124	4,375	1,425	9,071												
Loan Repayment																	
1) CFN (Foreign Portion)	0	0	0	0	0	577	3,037	4,888	8,717	12,794	18,778	21,796	10,095	10,506	0		
2) Commercial Bank (Local Portion)	0	0	694	1,252	8,027	0											
3) CFN (Working Capital)	0	0	0	1,449	5,560	21,440	31,839	37,926	40,239	43,149	35,720	13,537	461				
Sub-total	0	0	694	2,701	13,587	22,017	34,875	42,814	48,956	55,942	54,498	35,332	10,556	10,506	0		
Total Uses	0	1,124	5,069	4,125	22,658	22,017	34,875	42,814	48,956	55,942	54,498	35,332	10,556	10,506	0	0	0
<b>SURPLUS (DEFICIT)</b>	0	0	0	0	0	0	0	0	0	0	0	39,461	101,122	152,503	237,151	343,218	1,494,438
<b>CUMULATIVE SURPLUS</b>	0	0	0	0	0	0	0	0	0	0	0	39,461	140,583	293,086	530,237	873,455	

Remarks:

- \* Alternative 2, Case 1 : CFN(Foreign portion), Gov. contribution(Local portion of infrastructure), Commercial loan (Local portion exclusive of infrastructure), CFN(Working Capital) : No participation of CFN and others in equity
- \*\* ZONEFREE exempts from tax. Depreciation is excluded.
- \*\*\* Depreciation is excluded.

Table 11 - 15 SIMPLIFIED INCOME AND CASH FLOW FORECASTS  
( ALTERNATIVE 2, Case 2)\*

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2010
(\$/ mill., Current Prices)																	
<b>REVENUE</b>																	
Gross Revenue	0	0	0	479	2,284	8,551	13,146	19,832	29,560	43,715	64,310	94,276	137,876	201,315	293,618	427,918	1,923,234
<b>COST**</b>																	
Operating cost (Promo., O&M)	19	105	319	802	1,335	1,469	2,203	3,305	4,957	7,436	11,154	16,731	25,096	37,645	56,467	84,700	428,796
Interests & Other Charges																	
1) CFN (Foreign Portion)	0	2	24	71	229	336	490	691	934	1,111	1,249	1,273	1,085	660			
2) Commercial Bank (Local Portion)	0	0	388	701	4,495	0											
3) CFN (Working Capital)	0	0	0	112	391	1,621	1,773	1,630	923	112							
Sub-total	0	2	413	883	5,115	1,957	2,262	2,321	1,857	1,223	1,249	1,273	1,085	660	0		
Total Cost	19	107	732	1,685	6,450	3,426	4,466	5,625	6,814	8,659	12,403	18,003	26,181	38,305	56,467	84,700	428,796
<b>NET INCOME</b>	-19	-107	-732	-1,206	-4,166	5,125	8,680	14,207	22,746	35,056	51,908	76,273	111,695	163,010	237,151	343,218	1,494,438
<b>CASH FLOW</b>																	
<b>SOURCES OF FUNDS***</b>																	
Net Income	-19	-107	-732	-1,206	-4,166	5,125	8,680	14,207	22,746	35,056	51,908	76,273	111,695	163,010	237,151	343,218	1,494,438
Equity	19	62	186														
Government Contribution	0	1,124	3,610	0	0												
Loan Receipt																	
1) CFN (Foreign Portion)	0	46	208	380	1,359												
2) Commercial Bank (Local Portion)	0	0	694	1,252	8,027												
3) CFN (Working Capital)	0	0	1,102	3,423	16,531	14,039	17,548	11,134									
Sub-total	0	46	2,004	5,055	25,917	14,039	17,548	11,134									
Total Sources	0	1,124	5,069	3,849	21,750	19,164	26,228	25,341	22,746	35,056	51,908	76,273	111,695	163,010	237,151	343,218	1,494,438
<b>USES OF FUNDS</b>																	
Project Investment	0	1,124	4,375	1,425	9,071												
Loan Repayment																	
1) CFN (Foreign Portion)	0	0	0	0	0	42	299	870	2,819	4,137	6,072	8,487	10,095	10,506			
2) Commercial Bank (Local Portion)	0	0	694	1,252	8,027	0											
3) CFN (Working Capital)	0	0	0	1,172	4,653	19,121	25,930	24,471	15,169	3,002							
Sub-total	0	0	694	2,424	12,680	19,164	26,228	25,341	17,988	7,139	6,072	8,487	10,095	10,506	0		
Total Uses	0	1,124	5,069	3,849	21,750	19,164	26,228	25,341	17,988	7,139	6,072	8,487	10,095	10,506	0	0	0
<b>SURPLUS (DEFICIT)</b>	0	0	0	0	0	0	0	0	4,758	27,917	45,935	67,785	101,600	152,503	237,151	343,218	1,494,438
<b>CUMULATIVE SURPLUS</b>	0	0	0	0	0	0	0	0	4,758	32,675	78,511	146,296	247,896	400,400	637,550	980,768	

Remarks:  
 \* Alternative 2, Case 2: CFN(Foreign portion exclusive of infrastructure), Gov. contribution(Infrastructure portion), Commercial loan(Local portion exclusive of infrastructure), CFN(Working Capital)  
 \*\* ZOFREE exempts from tax. Depreciation is excluded.  
 \*\*\* Depreciation is excluded.

Table 11 - 16 SIMPLIFIED INCOME AND CASH FLOW FORECASTS  
(ALTERNATIVE 3)\*

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2010
(\$/mill., Current Prices)																	
<b>REVENUE</b>																	
Gross Revenue	0	0	0	479	2,284	8,551	13,146	19,832	29,560	43,715	64,310	94,276	137,876	201,315	293,618	427,918	1,923,234
<b>COST**</b>																	
Operating cost (Promo., O&M)	19	105	319	802	1,335	1,469	2,203	3,305	4,957	7,436	11,154	16,751	25,096	37,645	56,467	84,700	428,796
Interest & Other Charges																	
1) CFN (Foreign Portion)	0	28	247	397	708	1,040	1,473	1,882	2,311	2,588	2,617	2,109	1,085	660	0		
2) Commercial (Local Portion)	0	137	1,446	701	4,495	0											
3) CFN (Working Capital)	0	0	138	1,389	3,963	12,218	19,573	54,785	130,845	314,880	760,854	1,843,102	4,470,490	10,853,039	26,372,028	64,118,058	1,789,755,321
Sub-total	0	165	1,831	2,487	9,166	13,258	21,046	56,667	133,156	317,467	763,471	1,845,211	4,471,575	10,853,699	26,372,028	64,118,058	1,789,755,321
Total Cost	19	270	2,151	3,289	10,502	14,727	23,249	59,972	138,113	324,903	774,625	1,861,942	4,496,671	10,891,344	26,428,495	64,202,759	1,790,184,117
<b>NET INCOME</b>	-19	-270	-2,151	-2,810	-8,218	-6,176	-10,103	-40,140	-108,553	-281,188	-710,315	-1,767,666	-4,358,795	-10,690,029	-26,134,877	-63,774,841	-1,788,260,883
<b>CASH FLOW</b>																	
<b>SOURCES OF FUNDS***</b>																	
Net Income	-19	-270	-2,151	-2,810	-8,218	-6,176	-10,103	-40,140	-108,553	-281,188	-710,315	-1,767,666	-4,358,795	-10,690,029	-26,134,877	-63,774,841	-1,788,260,883
Equity	19	191															
Government Contribution																	
Loan Receipt																	
1) CFN (Foreign Portion)	0	619	1,929	380	1,359												
2) Commercial (Local Portion)	0	551	2,583	1,252	8,027												
3) CFN (Working Capital)	0	584	5,468	13,178	46,448	99,212	205,656	473,038	1,136,718	2,754,378	6,666,742	16,165,430	39,235,831	95,333,366	231,759,865	563,666,666	19,525,214,632
Sub-total	0	1,754	9,980	14,810	55,833	99,212	205,656	473,038	1,136,718	2,754,378	6,666,742	16,165,430	39,235,831	95,333,366	231,759,865	563,666,666	19,525,214,632
Total Sources	0	1,675	7,829	12,000	47,615	93,036	195,553	432,898	1,028,165	2,473,190	5,956,427	14,397,764	34,877,036	84,643,337	205,624,988	499,891,826	17,736,953,749
<b>USES OF FUNDS</b>																	
Project Investment	0	1,124	4,375	1,425	9,071												
Loan Repayment																	
1) CFN (Foreign Portion)	0	0	0	0	577	3,037	4,888	8,717	8,717	12,794	18,778	21,796	10,095	10,506	0		
2) Commercial (Local Portion)	0	551	2,583	1,252	8,027	0											
3) CFN (Working Capital)	0	0	872	9,323	30,518	92,459	192,516	428,010	1,019,448	2,460,396	5,937,649	14,375,969	34,866,941	84,632,831	205,624,988	499,891,826	17,736,953,749
Sub-total	0	551	3,454	10,575	38,545	93,036	195,553	432,898	1,028,165	2,473,190	5,956,427	14,397,764	34,877,036	84,643,337	205,624,988	499,891,826	17,736,953,749
Total Uses	0	1,675	7,829	12,000	47,615	93,036	195,553	432,898	1,028,165	2,473,190	5,956,427	14,397,764	34,877,036	84,643,337	205,624,988	499,891,826	17,736,953,749
<b>SURPLUS (DEFICIT)</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>CUMULATIVE SURPLUS</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Remarks:  
 \* Alternative 3: CFN (Foreign portion), commercial loan (Local portion), CFN (Working Capital), equity without CFN  
 \*\* ZOFREE exempt from tax. Depreciation is excluded.  
 \*\*\* Depreciation is excluded.

Table 12 - 1 - PROJECT COST (ECONOMIC COST)

(US\$ 1000 in June, 1991 Prices)

Cost Items	1992		1993		1994		1995		Total	
	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.
<b>I. CONSTRUCTION COST</b>										
1. Land Leveling	0	114	0	0	0	0	0	0	0	114
2. Infrastructure										
1) Road	0	0	0	93	0	0	0	0	0	93
2) Drainage	0	94	0	188	0	0	0	0	0	282
3) Water Supply	46	74	120	148	240	0	0	0	138	360
4) Sewerage	312	77	388	623	153	777	0	0	935	1,165
5) Solid Waste Disposal	0	0	0	188	188	0	0	0	0	188
6) Electric Facility	0	0	0	43	43	0	0	0	0	43
7) Telecommunication	0	0	0	0	0	0	0	0	0	0
Sub-total	358	244	602	715	813	1,529	0	0	1,073	2,131
3. Standard Factory	0	0	18	124	142	42	288	330	160	1,102
4. Administrative Facility	0	0	0	8	75	82	0	0	0	82
5. Service Facility	0	0	0	0	0	0	0	10	92	102
6. Park, Sports park	0	0	0	0	0	0	0	0	50	50
7. Others (Gate, Fence, Bus Terminal)	0	0	0	41	41	0	0	0	0	41
<b>TOTAL</b>	358	359	716	741	1,052	1,794	42	288	330	1,614
<b>II. ENGINEERING AND ADMINISTRATION</b>	29	29	57	59	84	143	3	23	26	14
<b>III. PROMOTION COST</b>	29	19	49	59	39	98	59	39	98	206
<b>IV. PHYSICAL CONTINGENCY</b>	39	39	77	80	114	194	5	31	36	18
<b>V. TOTAL</b>	454	446	900	940	1,289	2,229	108	381	489	260
<b>VI. ASSOCIATED COST</b>										
1. Power Supply				1,322	98	1,420				1,322
2. Telecommunication				35	39	74				35
Sub-total				1,357	137	1,494				1,357
<b>VII. GROUND TOTAL</b>	454	446	900	2,297	1,426	3,722	108	381	489	260
										1,517
										1,778
										3,120
										3,770
										6,890
<b>Cost Items</b>										
<b>O &amp; M COST</b>										
<b>I. Remuneration</b>										
1. Main Staff	0	14	14	0	17	17	0	36	36	0
2. Others (Guard, Driver etc.)	0	0	0	0	0	0	0	8	8	0
Sub-total	0	14	14	0	17	17	0	36	36	0
<b>II. Direct cost of O &amp; M</b>										
1. Infrastructure	0	0	0	0	0	0	3	70	73	3
2. Standard Factory	0	0	0	0	0	0	2	3	1	8
3. Administrative facility	0	0	0	0	0	0	1	1	0	1
4. Service Building	0	0	0	0	0	0	0	0	0	0
5. Others	0	0	0	0	0	0	1	1	1	1
Sub-total	0	0	0	0	0	0	3	74	78	4
<b>III. Total</b>	0	14	14	0	17	17	3	128	132	4
<b>IV. Associated O &amp; M</b>	0	0	0	0	0	0	0	26	26	0
<b>V. Ground Total</b>	0	14	14	0	17	17	3	154	158	4
										178
										182
										205
										212



Table 12 - 2 BENEFIT AND COST STREAM OF THE PROJECT  
(Case 1)

Year	COST			BENEFIT	NET BENEFIT (B - C)
	Initial Cost	OMR* Cost	Total		
1991	0	14	14	0	-14
1992	900	17	917	0	-917
1993	3,722	36	3,758	0	-3,758
1994	489	158	647	0	-647
1995	1,778	182	1,959	0	-1,959
1996		212	212	1,045	832
1997		212	212	1,045	832
1998		212	212	1,045	832
1999		212	212	1,045	832
2000		212	212	1,045	832
2001		212	212	1,045	832
2002		212	212	1,045	832
2003		212	212	1,045	832
2004		212	212	1,045	832
2005		212	212	1,045	832
2006		337	337	1,045	707
2007		212	212	1,045	832
2008		212	212	1,045	832
2009		212	212	1,045	832
2010		212	212	1,045	832
				EIRR =	6.1 %

Remark: O & M and Replacement costs

Table 12 - 3 BENEFIT AND COST STREAM OF THE PROJECT  
(Case 2)

(US\$ 1000 in June, 1991 prices)

Year	COST			BENEFIT	NET BENEFIT
	Initial Cost	OMR* Cost	Total	(B - C)	
1991	0	14	14	0	-14
1992	900	17	917	0	-917
1993	3,722	36	3,758	0	-3,758
1994	489	158	647	0	-647
1995	1,778	182	1,959	0	-1,959
1996		212	212	2,090	1,877
1997		212	212	2,090	1,877
1998		212	212	2,090	1,877
1999		212	212	2,090	1,877
2000		212	212	2,090	1,877
2001		212	212	2,090	1,877
2002		212	212	2,090	1,877
2003		212	212	2,090	1,877
2004		212	212	2,090	1,877
2005		212	212	2,090	1,877
2006		337	337	2,090	1,752
2007		212	212	2,090	1,877
2008		212	212	2,090	1,877
2009		212	212	2,090	1,877
2010		212	212	2,090	1,877
EIRR =					18.1 %

Remark: O & M and Replacement costs

Table 12 - 4 BENEFIT AND COST STREAM OF THE PROJECT  
(Case 3)

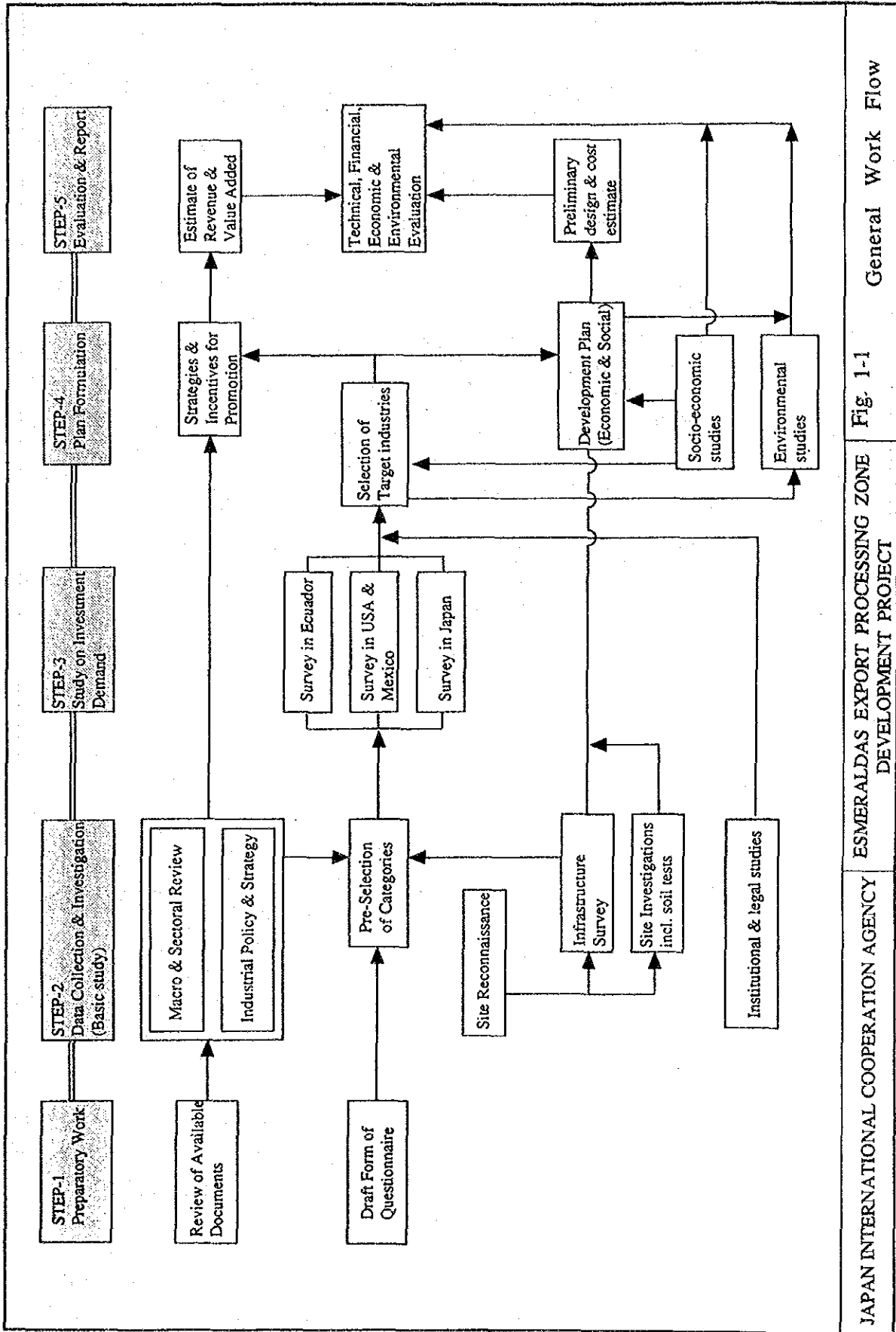
(US\$ 1000 in June, 1991 prices)						
Year	COST			BENEFIT	NET BENEFIT	
	Initial Cost	OMR* Cost	Total		(B - C)	
1991	0	14	14	0	-14	
1992	900	17	917	0	-917	
1993	3,722	36	3,758	0	-3,758	
1994	489	158	647	0	-647	
1995	1,778	182	1,959	0	-1,959	
1996		212	212	4,179	3,967	
1997		212	212	4,179	3,967	
1998		212	212	4,179	3,967	
1999		212	212	4,179	3,967	
2000		212	212	4,179	3,967	
2001		212	212	4,179	3,967	
2002		212	212	4,179	3,967	
2003		212	212	4,179	3,967	
2004		212	212	4,179	3,967	
2005		212	212	4,179	3,967	
2006		337	337	4,179	3,842	
2007		212	212	4,179	3,967	
2008		212	212	4,179	3,967	
2009		212	212	4,179	3,967	
2010		212	212	4,179	3,967	
EIRR =					33.4 %	

Remark: O & M and Replacement costs

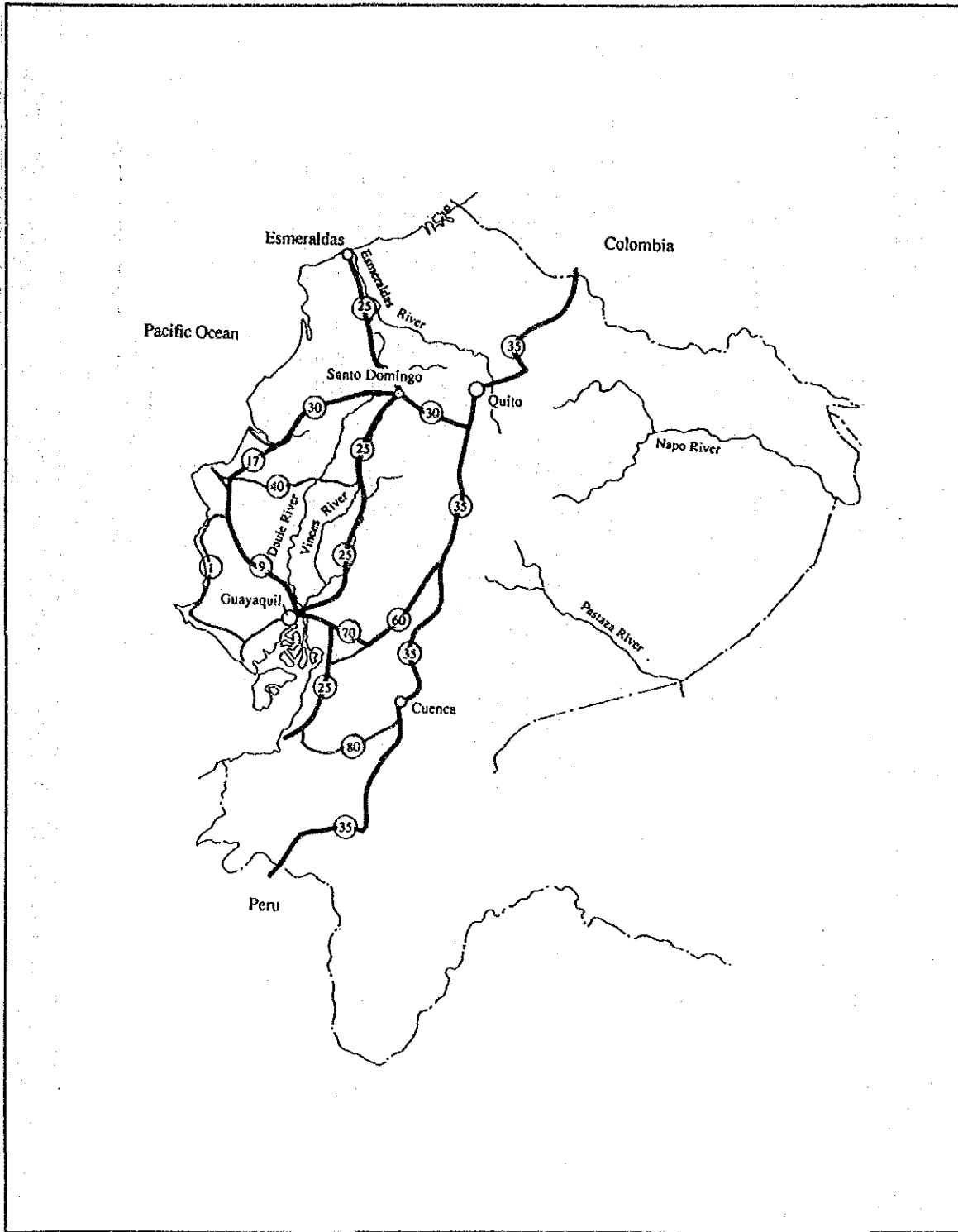


# FIGURES



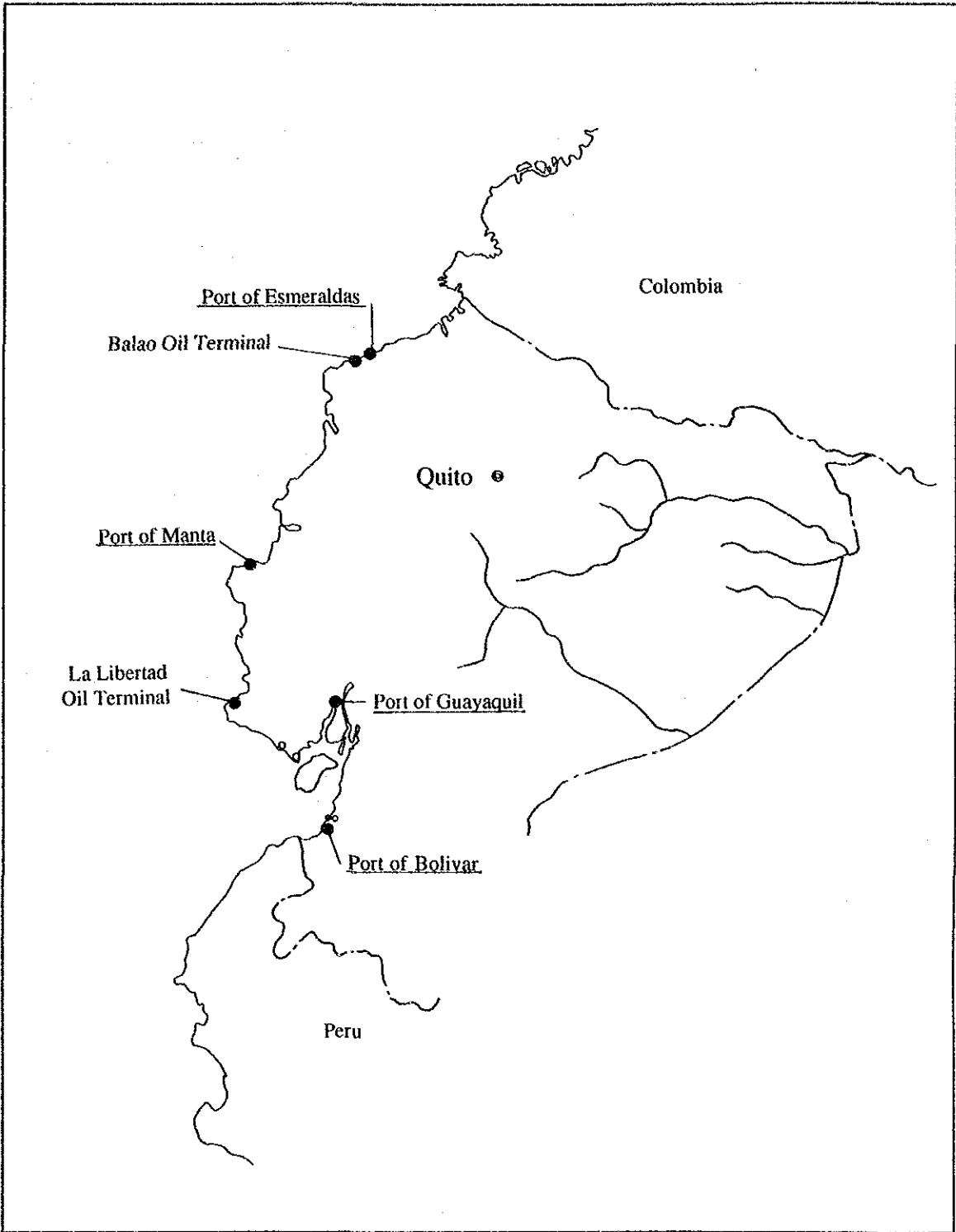


JAPAN INTERNATIONAL COOPERATION AGENCY      ESMERALDAS EXPORT PROCESSING ZONE DEVELOPMENT PROJECT      Fig. 1-1      General Work Flow



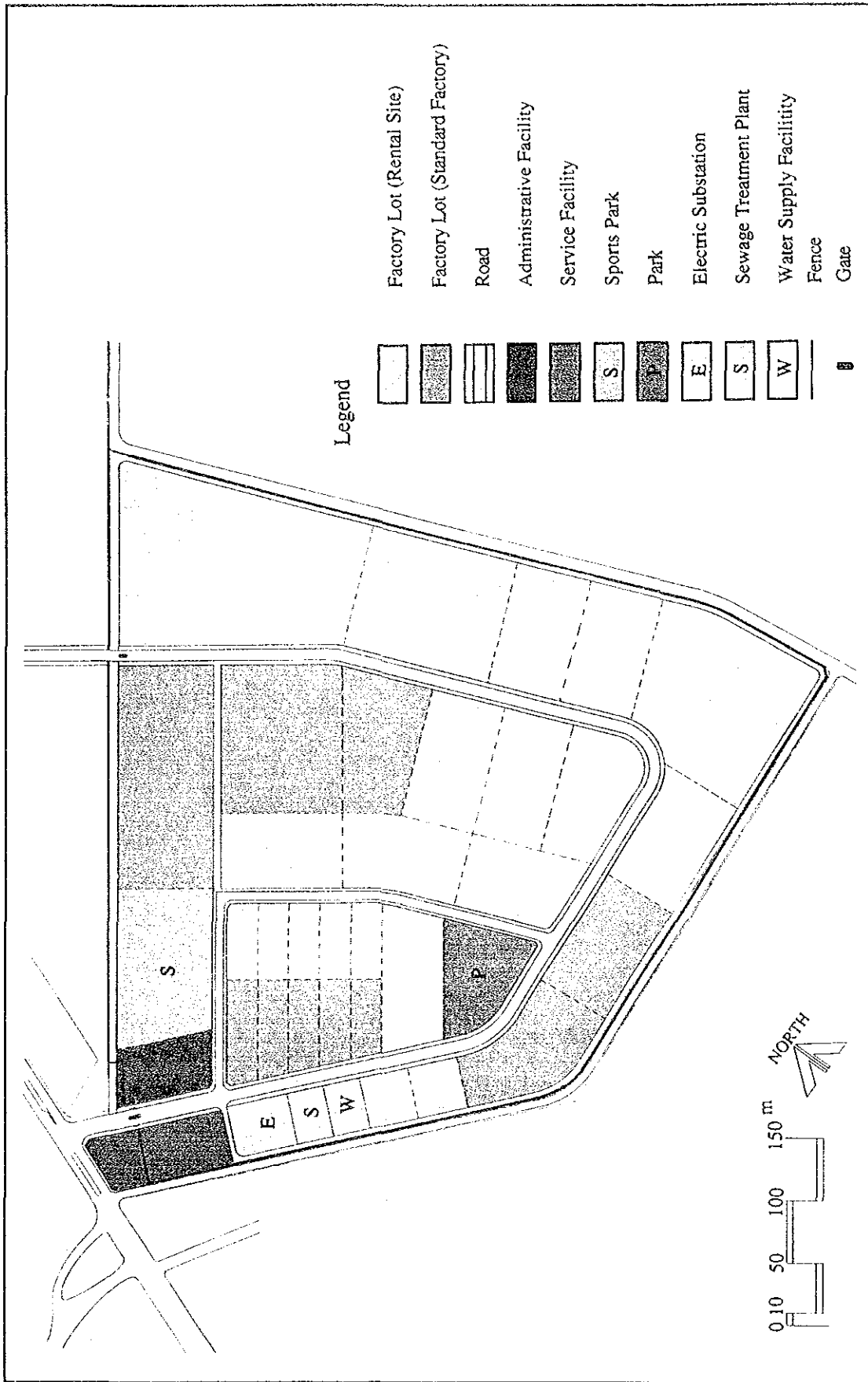
ESMERALDAS EXPORT PROCESSING ZONE DEVELOPMENT PROJECT	
Fig. 3-1 Road Network in Ecuador (Major Roads)	
JAPAN INTERNATIONAL COOPERATION AGENCY	





	ESMERALDAS EXPORT PROCESSING ZONE DEVELOPMENT PROJECT
	Fig. 3-2  Location Map of Ports
	JAPAN INTERNATIONAL COOPERATION AGENCY

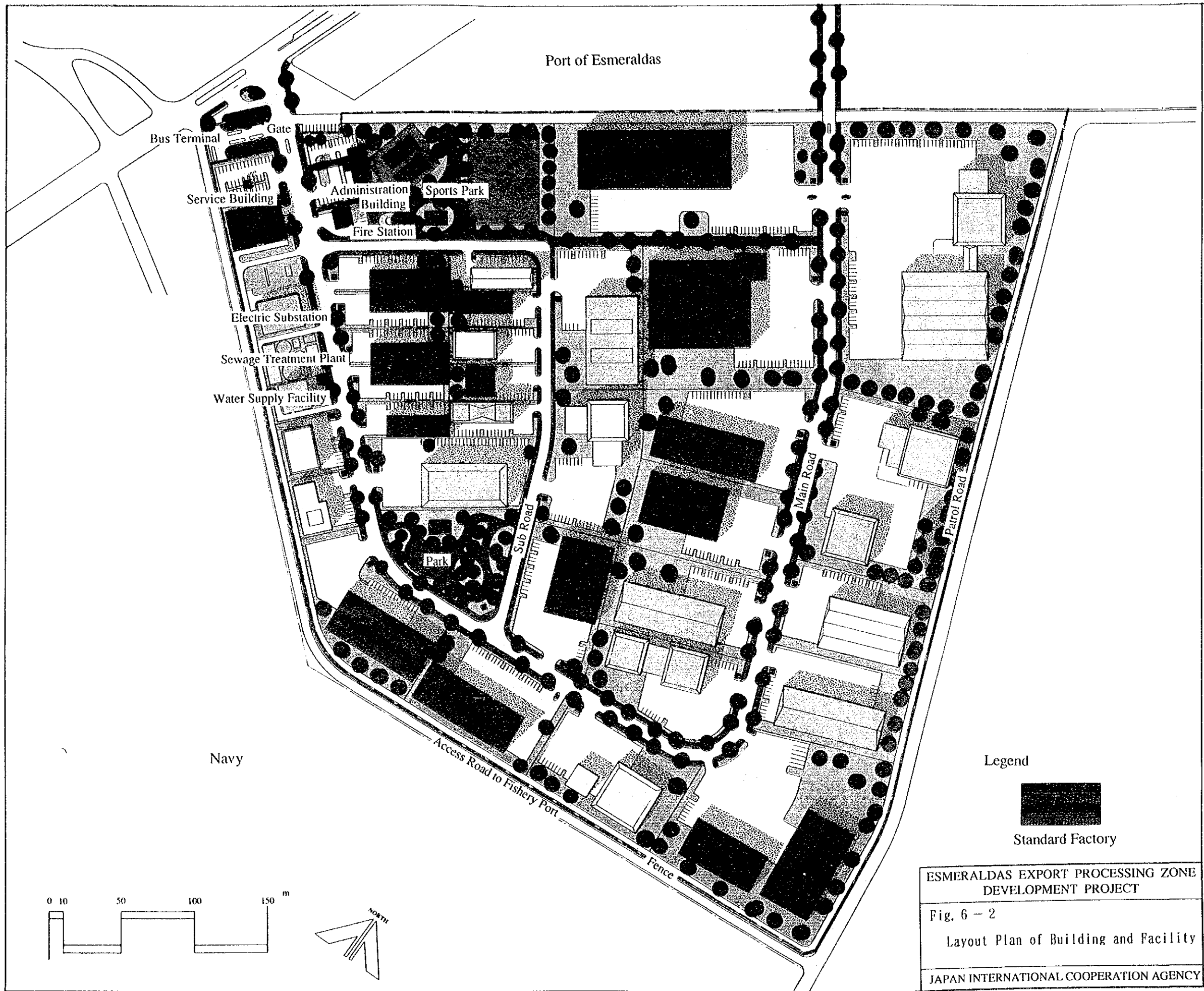




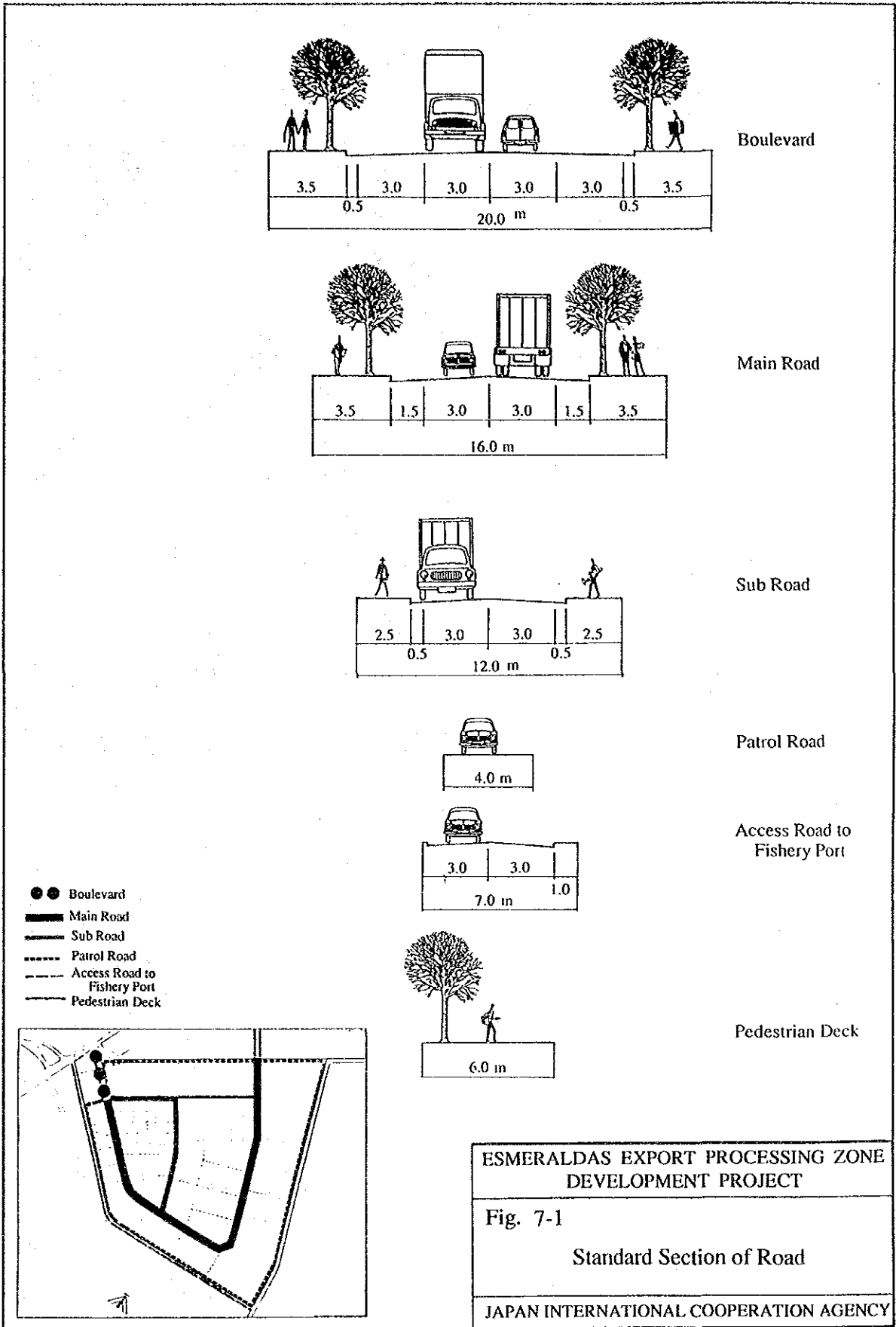
JAPAN INTERNATIONAL COOPERATION AGENCY      EMERALDAS EXPORT PROCESSING ZONE DEVELOPMENT PROJECT      Fig. 6 - 1 Land Use Plan











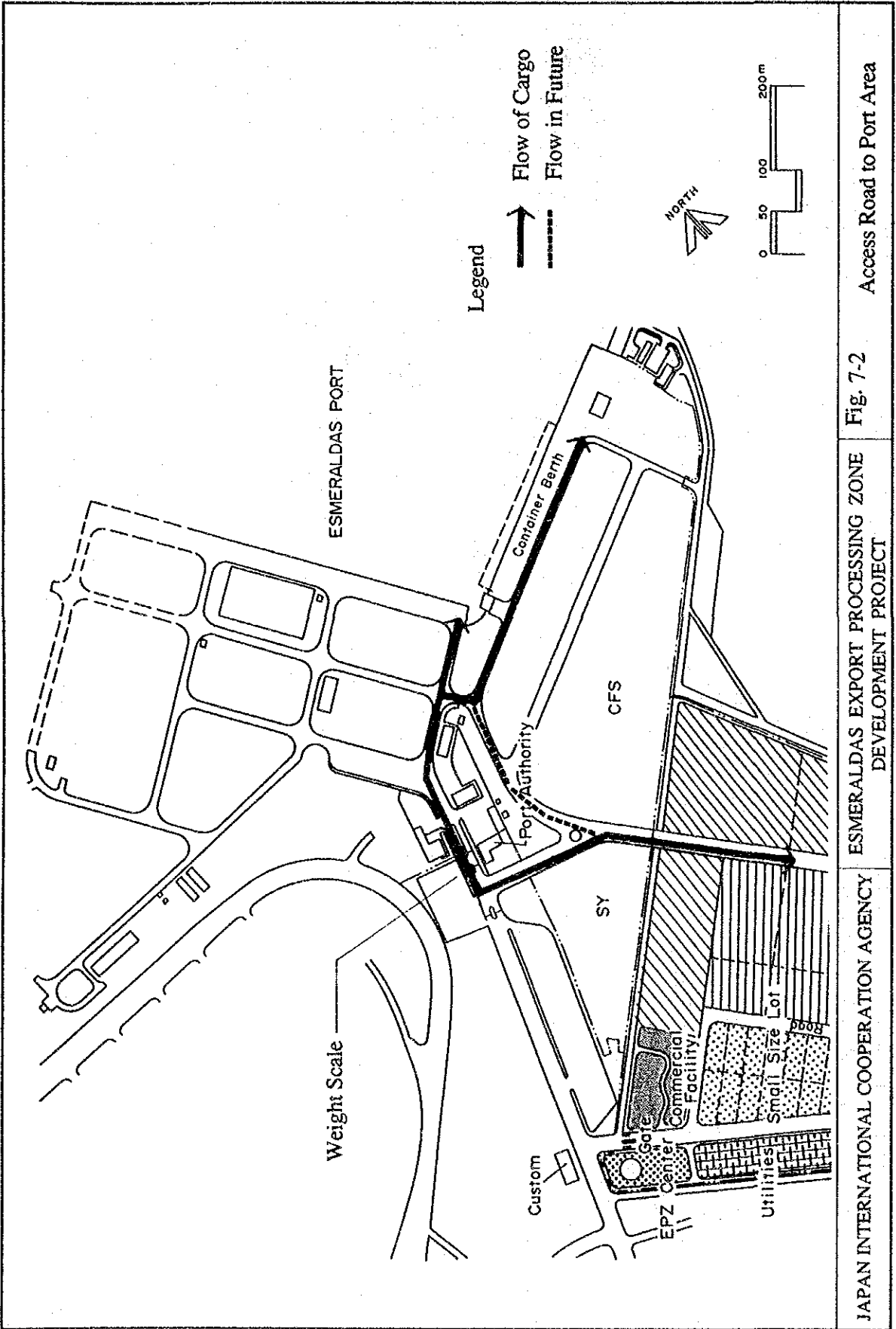
ESMERALDAS EXPORT PROCESSING ZONE  
DEVELOPMENT PROJECT

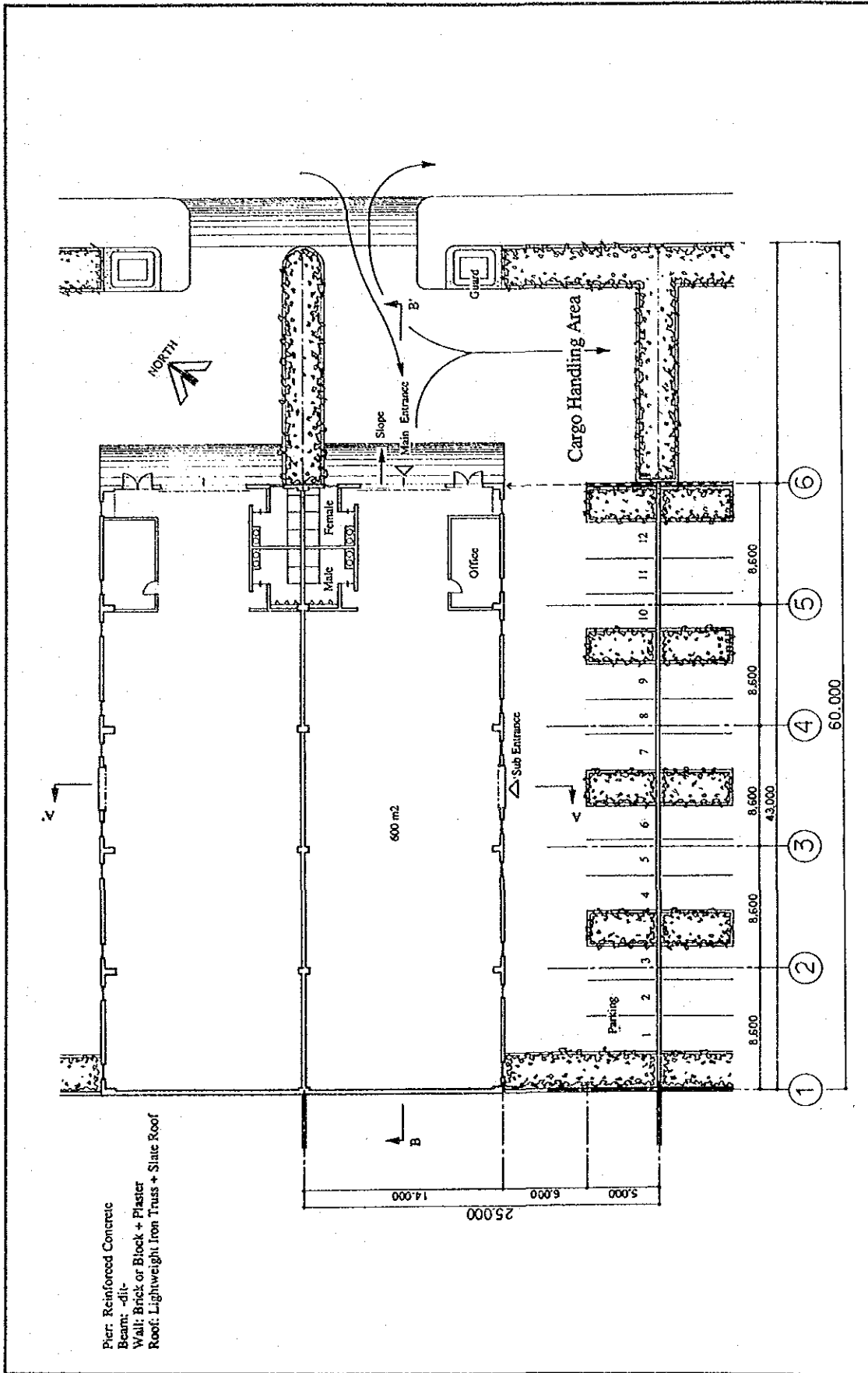
Fig. 7-1

Standard Section of Road

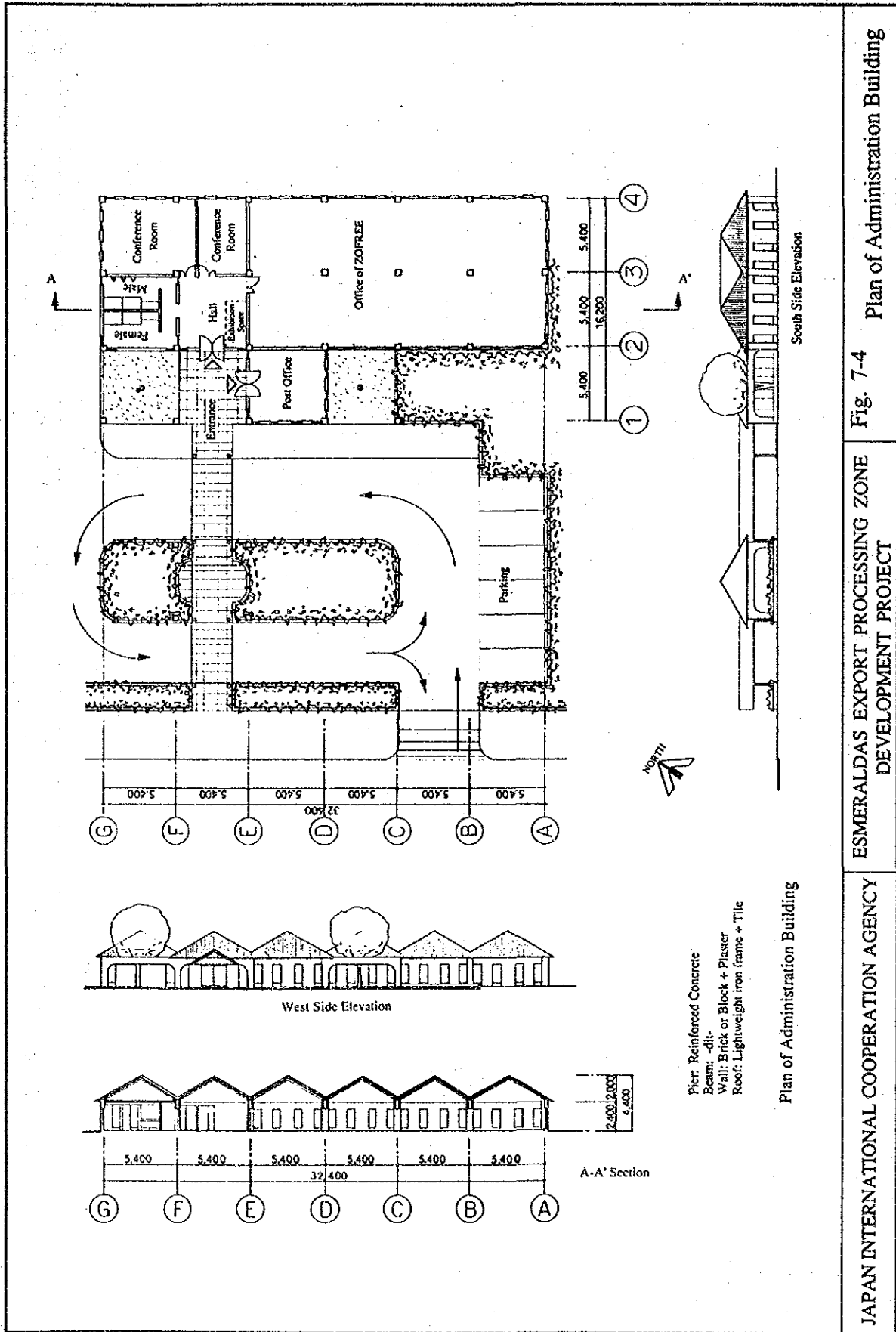
JAPAN INTERNATIONAL COOPERATION AGENCY







JAPAN INTERNATIONAL COOPERATION AGENCY      ESMERALDAS EXPORT PROCESSING ZONE DEVELOPMENT PROJECT      Plan of Standard Factory      Fig. 7-3



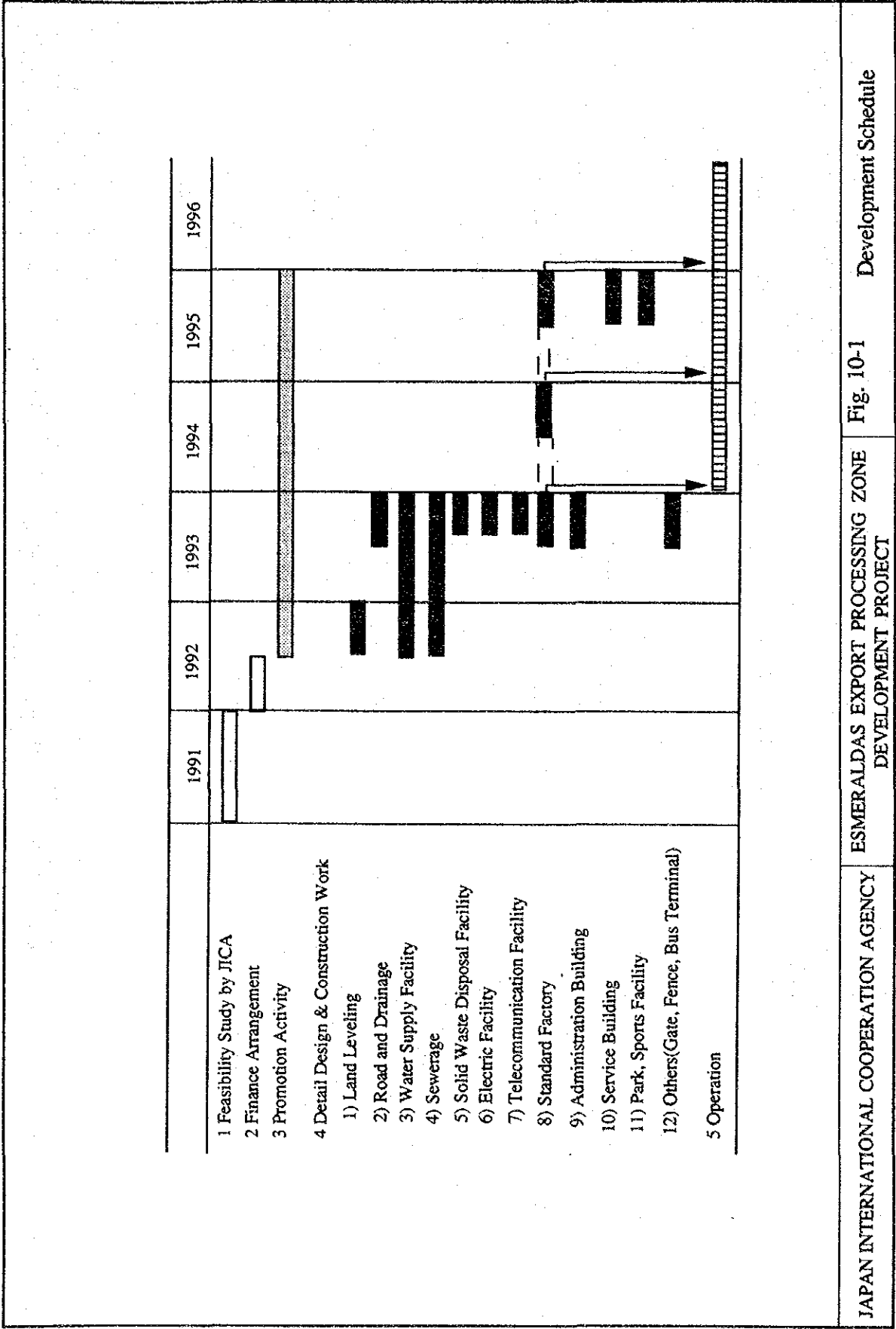
ESMERALDAS EXPORT PROCESSING ZONE DEVELOPMENT PROJECT

Fig. 7-4

Plan of Administration Building

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DEVELOPMENT PROJECT

Fig. 10-1

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Development Schedule



JICA

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