SUPPORTING REPORT J

PROJECT EVALUATION

TABLE OF CONTENTS

		Page
SUP	ORTING REPORT J PROJECT EVALUATION	
1.	Introduction	J - 1
2.	Economic Benefit	J - 2
	2.1 Concept of Flood Control Benefit	J - 2
	2.2 Flood Damage Analysis	
	2.2.1 Methodology	
	2.2.2 Number of General Assets and Area of Agricultural	
	Crop Fields in Inundation Area	J-3
	2.2.3 Appraisal Values of Assets	
	2.2.4 Flood Damage Rates of Assets	J-7
	2.2.5 Estimates of Flood Damage	
	2.3 Average Annual Benefit Expected	
3.	Economic Cost	
4.	Cost - Benefit Analysis	J - 10
	4.1 Economic Evaluation	J - 10
	4.2 Sensitivity Analysis	
	4.3 Indirect Economic Effects	J - 12
	4.3.1 Structural Measures	J - 12
	4.3.2 Non-structural Measures	J - 13
5.	Financial Aspect	J - 14
6.	Project Evaluation	J - 15

LIST OF TABLES

SUPPORTING	REPORT J PROJECT EVALUTION	Page
Table J.2.1	Area and Number of Households to be Inundated in the Rio Chane Area	I 10
Table J.2.2	Area and Number of Households to be Inundated in the	J - 17
Table 3.2.2	Rio Pailon Area	J - 18
Table J.2.3	Area and Number of Households to be Inundated in the	1-10
Table 3.2.5	Okinawa Area	J - 19
Table J.2.4	Area and Number of Households to be Inundated in the	J - 19
1able 3.2.4		1 20
Table J.2.5	San Juan AreaArea and Number of Households to be Inundated in the	J - 20
Table J.2.3		1 21
T-U- 10 (4)	Antofagasta Area	J - 21
Table J.2.6(1)	Distribution of Assets to be Inundated in the	1 22
Table 1.0 ((2)	Rio Chane Area(Without)	J - 22
Table J.2.6(2)	Distribution of Assets to be Inundated in the	r :00
Table 1 2 7(1)	Rio Chane Area(With) Distribution of Assets to be Inundated in the	J - 23
Table J.2.7(1)		T 24
Table 1.2.7(2)	Rio Pailon Area(Without) Distribution of Assets to be Inundated in the	J - 24
Table J.2.7(2)		1 16
TL. 10 0/1)	Rio Pailon Area(With)	J - 25
Table J.2.8(1)	Distribution of Assets to be Inundated in the	1 0/
T-11, 10 0/0)	Okinawa Drainage Area(Without) Distribution of Assets to be Inundated in the	J - 26
Table J.2.8(2)		
T-bl- 12 0(1)	Okinawa Drainage Area(With) Distribution of Assets to be Inundated in the	J - 27
Table J.2.9(1)		1 20
T.M. 12.0(2)	San Juan Area(Without) Distribution of Assets to be Inundated in the	
Table J.2.9(2)		
T-LL- 19 10/1)	San Juan Area(With)	J - 29
Table J.2.10(1)	Distribution of Assets to be Inundated in the	
Table 12 10(2)	Antofagasta Area(Without)	J - 30
Table J.2.10(2)	Distribution of Assets to be Inundated in the	
T-1.1. 10 11	Antofagasta Area(With)	J - 31
Table J.2.11	Average Appraisal Values of Assets in Flood Prone Area	J - 32
Table J.2.12	Inundation Damage Rate of Assets	J - 33
Table J.2.13	Flood Damage in the Rio Chane Area	J - 34
Table J.2.14	Flood Damage in the Rio Pailon Area	J - 34

Table J.2.15	Flood Damage in the Okinawa Drainage Area	J - 35
Table J.2.16	Flood Damage in the Chane-Pailon Area	J - 35
Table J.2.17	Flood Damage in the San Juan Area	J - 36
Table J.2.18	Flood Damage in the Antofagasta Area	J - 36
Table J.2.19	Flood Damage in the San Juan-Antofagasta Area	J - 37
Table J.3.1	Estimate of Economic Cost for Rio Chane Project	J - 38
Table J.3.2(1/2)	Estimate of Economic Cost for Rio Pailon Project	J - 39
Table J.3.2(2/2)	Estimate of Economic Cost for Rio Pailon Project	J - 40
Table J.3.3(1/2)	Estimate of Economic Cost for Okinawa Drainage Project	J - 41
Table J.3.3(2/2)	Estimate of Economic Cost for Okinawa Drainage Project	J - 42
Table J.3.4(1/2)	Estimate of Economic Cost for Chane-Pailon Project	J - 43
Table J.3.4(2/2)	Estimate of Economic Cost for Chane-Pailon Project	J - 44
Table J.3.5(1/2)	Estimate of Economic Cost for San Juan Project	J - 45
Table J.3.5(2/2)	Estimate of Economic Cost for San Juan Project	J - 46
Table J.3.6(1/2)	Estimate of Economic Cost for Antofagasta Project	J - 47
Table J.3.6(2/2)	Estimate of Economic Cost for Antofagasta Project	J - 48
Table J.3.7(1/2)	Estimate of Economic Cost for San Juan-Antofagasta Project	J - 49
Table J.3.7(2/2)	Estimate of Economic Cost for San Juan-Antofagasta Project	J - 50
Table J.4.1	Economic Analysis for Chane and Pailon Areas	J - 51
Table J.4.2	Economic Analysis for Okinawa Drainage	
	Area&Chane-Pailon Project	J - 52
Table J.4.3	Economic Analysis for San Juan and Antofagasta Areas	J - 53
Table J.4.4	Economic Analysis for San Juan-Antofagasta Project	J - 54



SUPPORTING REPORT J PROJECT EVALUATION

1. Introduction

The Project Area covers 1,207 km², consisting of the Chane-Pailon project with 600 km² and the San Juan-Antofagasta project with 607 km². The former is divided into three sub-projects of Rio Chane, Rio Pailon and Okinawa Drainage, and the latter is composed of two sub-projects of San Juan and Antofagasta.

Subjects of the project evaluation are the two projects of Chane-Pailon and San Juan-Antofagasta and each of the said five sub-projects. The evaluation is mainly carried out from economic point of view, taking financial aspect and social- and natural-environmental impacts into account.

The economic evaluation is indicated by the Economic Internal Rate of Return (EIRR), Benefit-Cost Ratio (B/C) and Net Present Value (NPV), by using the present values of economic cost and economic benefit of the project.

The economic prices, which are required to estimate the economic cost and benefit, are given under the conditions and assumptions as shown below:

- (a) Transfer payments such as value-added tax, income tax and corporation tax are not included in the economic cost and benefit,
- (b) Standard Conversion Factor (SCF) to be applied to get economic prices of non-trade goods and services is assumed to be 88 %, based on amount and duties of external trade of Bolivia in recent years,
- (c) Opportunity cost of wages for unskilled laborers are taken as 80 % of their market prices, taking the unemployment rate of Bolivia into account,
- (d) Opportunity cost of land to be acquired for the project is assumed to be 70 %, taking into consideration the existing situation of land use in objective area; and
- (e) Inflation factor is taken no account for the economic evaluation.

Economic life of the project (hereinafter referred to as the "project life") is taken as 30 years after the construction of facilities was completed, and the benefit and the operating

and maintenance cost (hereinafter referred to as the "OM cost") of the facilities are assumed to occur every year during the period of project life.

2. Economic Benefit

2.1 Concept of Flood Control Benefit

The economic benefit of a flood control project could be presented as an expected reduction effect in flood damage by implementing the project, that is, a difference between two damages of with-project and without-project situations.

The benefit is estimated dividing into two stages; in the first stage the direct effect of reduction in damage to assets in the inundated area, and in the second stage the reduction effect in damage to public facilities and economic activities as a function of the damage to assets.

2.2 Flood Damage Analysis

2.2.1 Methodology

For the purpose of estimating the economic benefit, a flood damage analysis would be made to assets, which are composed of general assets (buildings and household effects) and agricultural field crops, using results of a flood damage survey shown in the Supporting Report K.

The flood damages to the general assets could be estimated by using (a) number of the assets to be inundated by flood, (b) appraisal values of the assets, and (c) damage rate of the assets inundated. It can be expressed by an equation as follows:

$$D_i = N_i \cdot A_i \cdot R_i$$

where i: Kind of buildings,

Di: Flood damage to general asset (buildings and household effects) for i-kind of building (Bs.),

Ni: Number of i-kind of building,

Ai: Average appraisal values per general asset for i-kind of building (Bs.), and

Ri: Average damage rate of general assets for i-building.

On the other hand, the damages to agricultural field crops could be estimated by using (a) inundation areas in the agricultural crop fields, (b) production per unit area, and (c) the damage rate of agricultural field crops inundated, and it can be expressed by the following equation:

$$D_j = A_j \cdot V_j \cdot R_j$$

where j: Kind of Agricultural field crops,

Dj: Flood damage to j-crop (Bs.),

Ai : Planted area of j-crop (ha),

Vj: Average unit price of j-crop (Bs./ha), and

Ri: Average damage rate for j-crop.

2.2.2 Number of General Assets and Area of Agricultural Crop Fields in Inundation Area

In the inundation area, major buildings include residential houses (high, medium, and low classes), shops, schools, factories, health centers, etc., and agricultural crop fields are mainly composed of soybeans, rice, sugar cane, maize and others. The inundation area has been prepared in accordance with the existing land use and the return period of probable flood, using the Geographical Information System (GIS), as shown in Supporting Report H.

The total inundation area is summarized dividing into two situations of without-project and with-project as follows:

ESTIMATE OF INUNDATION AREA

(1) Without-project	E5115103	I IO SOF, AND	MUALIVA A	nsa	Unit: km²
Return Period (year)	Chane	Pailon	Okinawa	San Juan	Antofagasta
2	151.2	368.3	155.2	496.3	286.8
5	151.2	378.7	168.4	513.6	317.8
10	158.L	392.1	195.8	575.8	373.4
20	163.7	401.6	208.5	590.4	378.3
				626.6	382.5
(2) With-project					Unit: km²
Return Period (year)			Okinawa		Antofagasta
2	75.0	29.5	0.0	318.4	92.6
5	144.9	87.9	15.0	338.5	132.1
10	153.8	123.9	42.8	364.4	176.5
20	150.4	132.2	81.6	407.0	199.0
50	160.2	230.8	96.0	468.4	230.1
(3) (Without-projec	t)-(With-pr	oject)			Unit : km²
Return Period (year)	Chane	Pailon		San Juan	
2	76.2	338.8	155.2	177.9	194.2
5	6.3	290.8	153.4	175.1	185.7
10	4.3	268.2	153.0	211.4	196.9
20	13.3	269.4	126.9	183.4	179.3
50	5.3	181.7	123.1	158.2	152.4

The project was formulated for the probable flood with 10-year return period. Compared the with-project to the without project, a reduction in the inundated area shows a greater effect for 2-, 5- and 10-year return periods than for 20-, 50-year return periods. Further, the reduction effect distinguishes for the Pailon and Antofagasta areas, and it is not so much for the Chane area.

Number of residential houses in the inundated area is given as a product of the inundation area and the number of residential houses per unit area. The number of residential houses per unit area in the inundation area would be substituted by the figures in Colonies related to the inundation area. The following tables show the number of households in Colonies concerned:

NUMBER OF HOUSEHOLDS OF COLONIES RELATED TO THE INUNDATION AREA (1) 1992 (Census)

Name of Colony	Area (km²)	Population	Population Density/km²	Family Size (People/hh)	Number of Households(HH	Number of 181) per km²
1. Mineros (Rural)	876	10,773	12.3	4.79	2,249	2.568
2. Okinawa	470	3,650	7.8	4.77	765	1.628
3. San Juan	271	2,759	10.2	4.59	604	2.228
4. Antofagasta	197	2,259	11.5	4.59	494	2.509

(2) 2010(Target Year)

Name of Colony	Area (km²)	Population	Population Density/km²	Family Size (People/hh)	Number of Households(HH)	Number of HH per km²
1. Mineros (Rural)	876	10,773	12.3	4.25	2,543	2.893
2. Okinawa	470	3,591	7.6	3.99	899	1.913
3. San Juan	271	2,881	10.6	3.97	725	2.676
4. Antofagasta	197	2,359	12.0	3.97	594	3.015

The number of residential houses per km² in 2010 in each colony mentioned above was estimated as follows:

- (1) family size in 1992 and respective growth rates of Municipalities where the Colonies are belonging (see Table 1.2.5 in Supporting Report I),
- (2) Next, the number of households in 2010 is given by multiplying population with family size in the same year; and
- (3) Finally, the number of households per km² in 2010 is calculated from the number of households in 2010 and the area of colony.

The unit number of households per km² to be inundated could be calculated by the water depth of inundation, using area and water depth of inundation and the unit number of households per km² in colonies. The result is given by the return period of probable flood, under conditions of with-project and without project, for the five project areas as shown in Tables J.2.1 to J.2.5.

In the Study Area, the number of households is regarded as be nearly equal to number of residential houses, under the following residential situations in the Colonies:

- (1) According to the field survey, most residential houses in the Study Area was being occupied by one household.
- (2) The 1992 population census showed that number of collective residences in the said Colonies was less than one percent of the total number of residences.

According to of a result of the field survey, a distribution of number of buildings is as follows:

	Distribut	<u>tion of Build</u>	lings	
			Unit:	percent
·	Residences			
High	Medium	Low	Shops	Others
8	33	55	3	L

The classification of residences, high, medium and low, is in accordance with a visual judgment of interview surveyors. The others include schools, factories, health centers, etc. Using the average number of buildings per hectare (ha) shown in Tables J.2.1 to J.2.5 and the distribution of buildings given above, the numbers of buildings to be inundated in 2010 are estimated by the return period of probable flood for the said five project areas, and the results are given in Tables J.2.6 to J.2.10.

The agricultural crop lands in the Study Area have fully been developed, that is, it is considered to be difficult to expect a further increase in the agricultural land area, even though the kinds of planted crops are varied in the future. Accordingly in the present study, an increase in the agricultural crop areas is taken into no account in the flood prone area during the period of project life.

Areas inundated in the major agricultural crop fields, soybeans, rice, sugar cane and maize, are shown in the same tables, together with the number of buildings inundated.

2.2.3 Appraisal Values of Assets

An interview survey was carried out to obtain the present appraisal values of buildings and household effects of residential houses, shops, etc. in the flood prone area. Available data numbered about 151 samples for buildings and 110 samples for household effects. Details are described in Supporting Report K, and the average appraisal values of buildings and household effects are showed in Table J.2.11.

Regarding the agricultural field crops, production (tons/ha), prices (Bs/ton) and yield (Bs/ha) at the farm gate were estimated on the basis of agricultural production statistics and the result of interview survey to farmers (see Supporting Report K). These data together with the appraisal values of the assets are given in the same table.

2.2.4 Flood Damage Rates of Assets

The flood damage rates of building, household effects and agricultural field crops are estimated on the basis of the results of interview survey on the past flood damages in the flood prone area. However, the damage rates of buildings and household effects are mainly based the survey result at the previous mater plan stage, because it could not obtain available data at the present stage. Available data were 110 samples for buildings, 37 samples for household effects and 100 samples on average for each agricultural field crop.

The damage rate are given in accordance with the water depth of inundation to buildings, household effects and agricultural crops, and the respective average damage rates are summarized in Table J.2.12.

In addition to flood damage to the said assets, damages to public facilities and losses in business activities are taken into account. The public facilities contain transportation and agricultural facilities, electric and water supply systems, etc. However, it was difficult to estimate the flood damage to these facilities from the past flood damage records. Therefore, in the present study the total damage to these public facilities is assumed to be 34 % of the damage to general assets, on the basis of data of the similar projects which have been carried out in other countries.

On the other hand, major economic losses in the business activities are caused by suspensions of business activities and road traffic in and around the inundation area. According to records of the past floods, inhabitants and enterprises in and around the flooded area have been obliged to suspend all or a part of their business and production activities during some periods in and after flooding. For example, it is reported that some sugar-manufacturing factories reduced remarkably their sugar productions over two years, caused by flood damage to the planted sugar cane and suspension of road traffic.

Generally, the economic loss in the example above should be evaluated as a decrease in the gross profit of the factories. However, it is very difficult to have an accurate grasp of the economic loss for all sectors in and around the flooded area. Therefore in the present study, the economic loss in business suspension (including the traffic suspension) is assumed to be approximately 6 % of the flood damage to general assets, according to similar project in other countries.

2.2.5 Estimates of Flood Damage

Under the conditions above, the damage amounts are estimated according to kind of assets and return periods of probable flood. Estimates of the flood damage are carried out for two situations of the without-project and with-project. The results are given in Tables J.2.13 to J.2.19, and a difference between the without-project and with-project situations on the damage is summarized as follows:

Estimate of Flood Damage Reduced

Name of Projects	Return Period (year)					
	2	5	10	20	50	
I. Chane-Pailon	102,955	116,564	119,939	145,504	129,059	
1. Rio Chane	19,183	13,761	11,813	22,645	9,835	
2. Rio Pailon	67,490	81,868	81,119	90,921	83,379	
3. Okinawa Drainage	16,282	20,935	27,007	31,938	35,845	
II. San Juan-Antofagasta	37,897	46,652	58,206	54,981	61,057	
I. San Juan	13,160	17,652	24,449	22,905	21,499	
2. Antofagasta	24,737	29,000	33,757	32,076	39,558	

Unit: Bs. 1,000

2.3 Average Annual Benefit Expected

Using the damage amounts for each return period shown in Tables J.2.13 to J.2.19, the average annual flood damages of respective projects are calculated for the without- and the with-project situations, taking the occurrence probability of flood into account. The result is summarized as follows:

Average Annual Flood Damage

Name of Projects	Without- Project	With- Project	Reduction in Damage (Annual Benefit)
I. Chane-Pailon	115,663	34,418	81,245
1. Rio Chane	38,550	26,186	12,364
2. Rio Paiton	61,979	7,639	54,340
3. Okinawa Drainage	15,134	59 3	14,541
II. San Juan-Antofagasta	73,156	41,187	31,969
L San Juan	46,165	34,299	11,866
2. Antofagasta	26,991	6,888	20,103

Unit: Bs. 1,000

As shown in the table above, reduction in the average annual flood damage expected by executing the project would be estimated at Bs. 81.245 Million for the Chane-Pailon Project and Bs. 31.969 Million for the San Juan-Antofagasta Project. These annual reduction effects in flood damage would be given as a direct tangible benefit expected to accrue every year during the period of project life with 30 years after completion of the construction works.

In addition to the annual benefit mentioned above, a partial annual benefit would be expected to accrue before completion of the construction works. It is assumed to be proportional to progress of the construction works, i.e. the partial benefit would be approximately given in proportion of the construction cost invested already to the total construction cost. These annual benefits are transferred to Tables J.4.1 to J.4.4 for comparing the benefits with the costs of projects.

3. Economic Cost

The economic costs would be given by converting the project costs, taking into account the conditions and assumptions listed in Section 1.1. In addition to these conditions and assumptions, the following matters are considered:

- (1) Value Added Tax (VAT) is set as 13 % of costs of commodities and services to be procured locally (L.C.) and costs of commodities to be imported from abroad (F.C.) for the project. Since this tax is being included in the project cost shown in the Supporting Report D, it would be taken out from the project cost for estimating the economic cost.
- (2) A ratio of commodity costs and unskilled labor wages in the L.C. of the construction cost is assumed to be 55: 45 on average judging from the distribution of construction cost.
- (3) The engineering services of foreign consultants are assumed to be tax-free.

Based on the matters above, the economic cost of the project can be estimated by multiplying the project cost with the following rates:

Rates to be Multiplied to the Project Costs for Estimating the Economic Costs

Items of Cost	Rates	Calculation Formula
Local Currency Portion (L.C.)		·
1. Construction Cost	0.71	0.88(0.55+0.45 x 0.80) / 1.13
2. Land Acquisition Cost	0.55	0.88 x 0.70 / 1.13
3. Administration Cost	0.88	171.13
4. Engineering Service Fee	0.88	171.13
Fereign Currency Portion (F.C.)		
1. Construction Cost	0.88	1/1.13

The annual economic costs of projects are shown in Tables J.3.1 to J.3.7, and these are transferred to Tables J.4.1 to J.4.4 for comparing with the economic benefits. The totals of economic and financial costs of the respective projects are summarized below:

Comparison of Economic Costs and Financial Costs of the Projects

	Construc	tion Cost	Annual OM Cost	
Name of Projects	Financial	Economic	Financial	Economic
-	Cost	Costs	Cost	Cost
I. Chane-Pailon	1,011,012	584,596	11,125	4,334
1. Rio Chane	301,618	196,015	2,849	1,453
2. Rio Pailon	593,155	313,056	5,958	2,321
3. Okinawa Drainage	116,239	75,525	1,433	560
II. San Juan-Antofagasta	289,063	172,701	3,314	1,279
1. San Juan	158,533	89,184	1,712	660
2. Antofagasta	130,530	83,517	1,602	619

Unit: Bs. 1,000

Note: Financial cost includes price contingency.

4. Cost-Benefit Analysis

4.1 Economic Evaluation

The proposed projects consist of two parts of the Chane-Pailon project and the San Juan-Antofagasta project. The former is composed of three sub-projects of the Rio Chane area, the Rio Pailon area and the Okinawa drainage area. The latter is divided into two sub-projects of San Juan and Antofagasta.

According to the construction plan described in Supporting Report E, the construction schedules of the projects are planned as follows:

Projects	Construction Term.	Projects	Construction Term
1. Chane-Pailon project	2001-2010	2. San Juan-Antofagasta projec	2001-2010
1) Rio Chane area	2002-2005	i) San Juan area	2001-2010
2) Rio Pailon area	2003-2010	2) Antofagasta	2001-2010
3) Okinawa drainage are	a 2001-2010		

The economic feasibility of these projects is examined using the annual flows of economic cost and economic benefit shown in the Tables J.4.1 to J.4.4, based on the evaluation factors of EIRR, NPV and B/C. The results are listed at the lower parts of the said tables, and the EIRR is summarized below:

Name of Projects	EIRR (%)
I. Chane-Pailon	12.1
I. Rio Chane	3.8
2. Rio Pailon	16.4
3. Okinawa Drainage	18.4
II. San Juan-Antofagasta	18.2
1. San Juan	12.4
2. Antofagasta	23.4

The opportunity cost of capital is estimated to be between 10 % and 12 % in Bolivia. Accordingly, the Chane-Pailon project and the San Juan-Antofagasta project would be economically feasible. The four projects other than the Rio Chane area could be expected a fairly high economic return.

An improvement of the Rio Chane would be essential for improving the Rio Pailon and the Okinawa drainage as their tower reaches, though the Rio Chane area is regarded to be economically unfeasible.

4.2 Sensitivity Analysis

Based on professional experience and appropriate judgment by experts, several conditions and assumptions have been carefully set throughout the study. However, there are always some questions as to the degree of reliability of the inputs. A test is therefore carried out about the sensitivity of EIRR affected by variations in the economic costs and the economic benefits.

The effect to EIRR is examined under the pessimistic conditions of the 5 %- and 10 %-increases in the economic cost and the 5 %- and 10 %-decreases in the economic benefit,

for two projects and four sub-projects except the Rio Chane sub-project. The results are as follows:

Sensitivity Analysis of EIRR (%)

L Chane-Pailon I	Project		-	II. San Juan-Ant	ofagasta P	roject.	
Decrease in	1	ocrease io.	Cost	Decrease in	Increase in Cost		
Benefit	0.%_	5 %_	10%	Benefit	0%	5 %	10%
0 %	12.I	11.4	10.9	0 %	18.2	17.2	16.4
5 %	11.4	10.8	10.2	5 %	17.2	163	15.5
10%	10.7	10.1	_ _9.6	10%	16.2	15.4_	14.6
I-1.Rio Pailon Are	:a			II-1.San Juan Ar	ça		
Decrease in	Increase in Cost		Cost	Decrease in	Increase in Cost		
Benefit	0%	5%	10%	Benefit	0%_	5.%	10%
0 %	16.4	15.5	14.8	0%	12.4	11.6	11.1
5 %	15.5	14.7	14.0	5 %	11.7	11.0	10.4
10%	14.6	13.9	13.2	10%	10.9	10.3	9.7
1-2, Okinawa Dra	inage Area			li-2. Antofagasta	Area		
Decrease in	1	ncrease in	Cost	Decrease in	In	crease in C	Cost
Benefit	0%	5 %	10%	Benefit	0%	5%	10 %
0%	18.4	17.5	16.6	0%	23.4	22.3	21.2
5 %	17.4	16.5	15.7	5 %	22.2	21.1	20.1
10%	16.4	15.6	14.9	10%	21.0	20.0	19.0

EIRR of the Chane-Pailon project maintains more than 10.0 % which is the economically feasible, except a pessimistic condition where the increase in cost and the decrease in benefit are both 10 %. In the same condition, the Rio Pailon area and the Okinawa drainage area show still a high percentage of EIRR of 13.2 % and 14.9 %, respectively.

The San Juan-Antofagasta project also holds a high EIRR of 14.6 %, under the condition which the increase in cost and the decrease in benefit are both 10 %. In the same condition, the Antofagasta area maintains a high EIRR of 19.0 %, and the San Juan area holds more than 10.0 %, except a pessimistic condition where the increase in cost and the decrease in benefit are both 10 %.

In conclusion of the economic evaluation, two projects of the Chane-Pailon and the San Juan-Antofagasta are economically feasible, and it is expected to produce a large economic return for inhabitants in the flood prone area by implementing the projects.

4.3 Indirect Economic Effects

4.3.1 Structural Measures

In addition to the direct economic effects above, the project would be expected to produce the indirect socio-economic benefit as follows:

- (1) The projects are expected to contribute to an improvement of social and economic aspects in the Study Area throughout reductions in: 1) interruption of traffic and communications, 2) increase in idle laborers, 3) spread of disease, 4) drop in quality of crops, 5) increase in unit production costs in factories and agricultural lands, and 6) rise in consumer prices.
- (2) The project could be expected forward- and backward-linkage effects. As a forward effect, for example, the agricultural products such as soybeans and sugar cane will increase their productions by implementing the flood mitigation project. The increased production will produce an increase in the net profits of the soybean oil-refineries and sugar-manufacturing factories, and it is further expected that exports of soybean oil and sugar will be increased.

As a backward effect, an increase in the agricultural production, for example, will produce an increase in fertilizer production, and as the result it is expected that the fertilizer plants will get an increased net profit.

(3) The projects will have a stimulate impact to the development of regional economy owing to the investment of huge fund. As the result it will produce an increase in income of inhabitants, and will be to rise the regional GDP.

4.3.2 Non-structural Measures

The proposed non-structural measures would be (1) to establish flood warning system, (2) to establish a institutional organization for flood mitigation, (3) to prepare a flood hazard map, (4) to control a land use in retarding areas, and (5) to conserve forest along the river channels.

These measures would have a reduction effect in flood damage, supporting the structural measures. For instance, the establishment of flood warning system will produce a reduction effect in flood damage to the removal assets such as household effects and livestock. However, it is difficult to estimate reasonably its benefit, because it has to set up many assumptions for estimating the benefit.

In addition, the non-structural measures could be expected an improvement effect of social communications, due to that the inhabitants participate in the flood mitigation project. The non-structural measures would be generally evaluated as an intangible effect of the project.

5. Financial Aspect

During the period of 10 years from 2001 to 2010, the project cost disbursed will amount to Bs. 906.5 Million (US\$ 165 Million) at the 1998 constant price, at the annual rate of Bs. 90.6 Million (US\$ 16.5 Million) on average.

According to the Government budget of Bolivia, the budget expenditure to public investment in the Department of Santa Cruz was approximately US\$ 100 Million per annum, during the period 1992-1997 (see Table 1.7.4 of Supporting Report I). Accordingly, annual disbursement of the project is only one-sixth (1/6) of the annual public investment in the Department of Santa Cruz. Judging from such a financial aspect, the project will be possible to realize.

In Bolivia, the greater part of public investment to infrastructures has been provided by aid funds from the multilateral and bilateral agencies. In the aid funds, a ratio of credit to grant would be estimated to be approximately 80: 20, based on the external aid to public projects of the Prefecture of Santa Department in 1996 and 1997(see Table I.8.8 of Supporting Report I). Should a grant be supplied as a fund of the project from the external agencies, the project will be to get a favorable financial situation.

After completion of the construction works, the annual OM cost for facilities of the project is estimated at Bs. 6.8 Million at the 1998 constant price. Assuming that the facilities will be maintained by Municipalities related to the project, the existing public budgets of these Municipalities should be examined below:

The public investment budget of Municipalities of Warnes, G. Saavedra and San Carlos in 1998 was Bs. 25.3 Million in total for 12 projects, i.e. Bs. 2.1 Million a project. Among the 12 projects, the maximum cost per project was Bs. 8.4 Million for the construction and maintenance of local roads (see Table I.7.6 of Supporting Report I). The annual OM cost of the present project is less than the annual cost of the said road project in the three Municipalities, though it amount to 3.2 times of the average annual cost per project for 12 projects.

The operation and maintenance of the project as a whole will be commenced in 2011, and it is expected that GRDP of the Department of Santa Cruz in 2010 will become twice as much that in 1998 (see Section 3.2.2 of Supporting Report I).

Under the things mentioned above, it seems that the operation and maintenance conducted by the Municipalities will not be so difficult in the financial aspect.

6. Project Evaluation

The project would be evaluated from technical, economic, financial, and social and natural environmental points of view.

(1) Technical Feasibility

All projects are no problem technically on construction works and technical management. Operation and maintenance of facilities after completion of the construction works also will be possible, judging from the existing situation of operation and maintenance of the Rio Piray project.

(2) Economic Feasibility

The four sub-projects of the Rio Pailon area, the Okinawa drainage, the San Juan area and the Antofagasta area show an EIRR of 16.4 %, 18.4 %, 12.4 % and 23.4 % respectively, and those could be expected a fairly high economic return by implementing them.

A river improvement of the Rio Chane would be essential for improve the Rio Pailon and the Okinawa drainage and to maintain their lower reaches, even though an evaluation of the Rio Chane area is economically unfeasible.

The Chane-Pailon project, which contains three areas of the Rio Chane, the Rio Pailon and the Okinawa drainage, is economically feasible, indicating an EIRR of 12.1 %. The San Juan-Antofagasta project, which consists of the San Juan and the Antofagasta areas, would come to a high EIRR of 18.2 %. Accordingly, the said two projects is expected to contribute to a promotion of economic development in the region.

Besides the benefits produced by the structural measures above, lots of intangible benefits would be produced from the non-structural measures.

(3) Social and Natural Environmental Impacts

The flood mitigation and drainage improvement aim basically to improve social and natural environments in the region

The social environment will be improved due to that the structural measures will reduce an interruption of business activities and social communications, and the non-structural measures will promote the good communications among inhabitants.

The natural environment will be improved due to that the project will reduce the natural destruction such as erosion of land and deposit of earth and sand caused by floods and bad drainage system.

To the contrary, the negative impacts to environment is hardly found, except noise pollution and traffic control during the period of construction works.

(4) Financial Aspect

A raise the project cost including the OM cost will be possible, based on the discussion described in Chapter 5.

Under the discussion above, the project would be concluded to be feasible from technical, economic, financial and environmental points of view, and it is expected to realize as soon as possible.

TABLAS

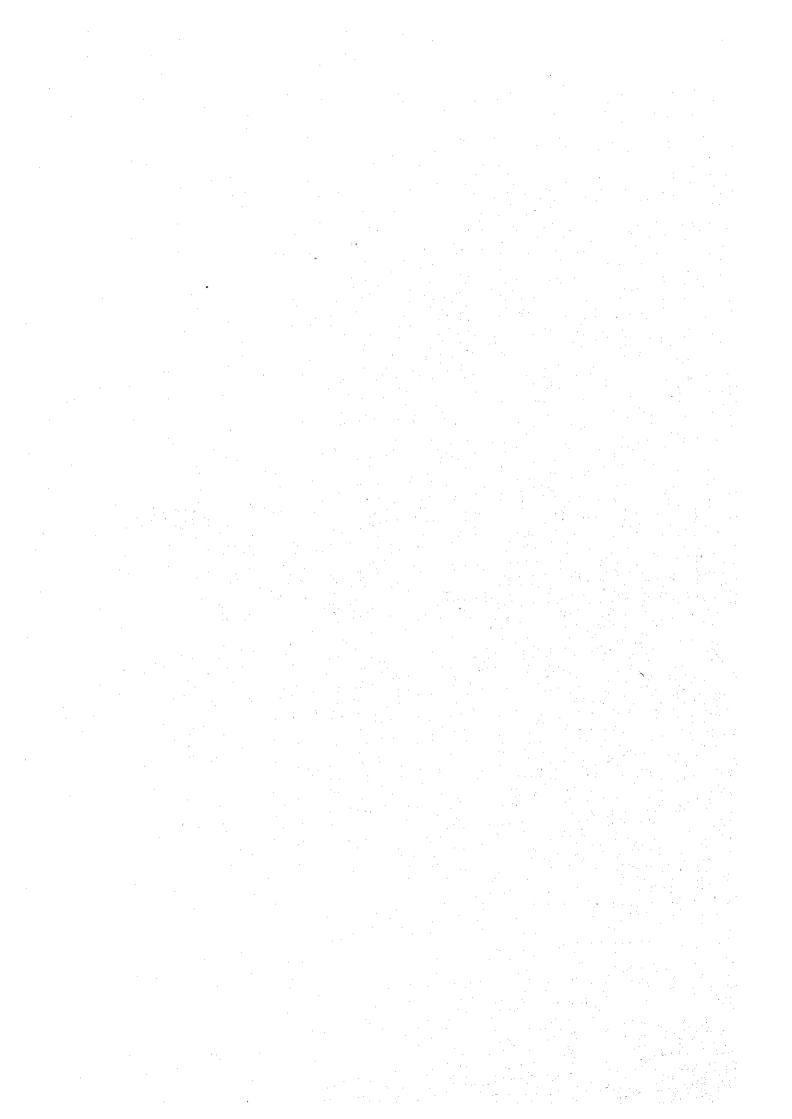


TABLE J.2.1 AREA AND NUMBER OF HOUSEHOLDS TO BE INUNDATED IN THE RIO CHANE AREA

(1)	12-VA	ar N	aturs	Period
11	1 Z- I E	4 F K	PHILITA	Perion

	Water		Without					
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A) (B)
	(m)	Area (km²)	per km²	(A)	Area(km2)	per km²	(B)	
1	0.0-0.25	22.9	2.893	66	0.0	2.893	0	66
2	0.25-0.5	33,2	2.893	96	7.8	2.893	23	73
3	0.5-1.0	71.5	2.893	207	19.5	2.893	56	151
4	1.0-1.5	21.4	2.893	62	47.7	2.893	138	-76
5	1.5-2.0	2.1	2.893	6	0.0	2.893	0	6
	Total	151,2	2.893	437	75.0	2.893	217	220

(2) 5-Year Return Period

	Water		Without					
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)
	(m)	(m) Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
1	0.0-0.25	22.9	2,893	66	34.7	2.893	100	-34
2	0.25-0.5	33,2	2.893	96	36.4	2.893	105	-9
3	0.5-1.0	71.5	2.893	207	73,7	2.893	213	-6
4	1.0-1.5	19.5	2.893	56	0.0	2.893	0	56
5	1.5-2.0	4.1	2.893	12	0.0	2.893	0	12
	Total	151.2	2,893	437	144.9	2.893	419	18

(3) 10-Year Return Period

-	Water		Without					
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of filf	(A) (B)
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
1	0.0-0.25	12.7	2.893	37	30.6	2.893	88	-52
2	0,25-0.5	18.7	2.893	54	21.7	2.893	63	-9
3	0.5-1.0	40.3	2.893	117	39.1	2.893	113	4
4	1.0-1.5	56.9	2.893	164	26.7	2.893	77	87
5	1,5-2.0	29.6	2.893	86	35.8	2.893	104	-18
	Total	158.1	2.893	457	153.8	2.893	445	13

(4) 20-Year Return Period

	Water		Without					
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
1	0.0-0.25	4.7	2.893	14	18.2	2.893	53	-39
2	0.25-0.5	5.0	2.893	14	16.8	2.893	49	-34
3	0.5-1.0	10.0	2,893	29	32.9	2.893	95	-66
4	1.0-1.5	67.6	2.893	196	29.1	2.893	84	111
5	1.5-2.0	76.4	2.893	221	53.5	2.893	155	66
	Total	163.7	2.893	474	150.4	2.893	435	38

	Water		Without					
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)
	(m) -	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
l	0.0-0.25	5.3	2.893	15	8.4	2.893	24	-9
2	0.25-0.5	4.5	2.893	13	8.1	2.893	23	-10
3	0.5-1.0	8.6	2.893	25	16.0	2.893	46	-21
4	1.0-1.5	52.7	2.893	153	38.7	2.893	112	40
5	1.5-2.0	94.4	2.893	273	89.1	2.893	258	15
	Total	165,5	2.893	479	160.2	2.893	464	15

TABLE J.2.2 AREA AND NUMBER OF HOUSEHOLDS TO BE INUNDATED IN THE RIO PAILON AREA

	- 42	** *	** * *
"	Z-Year	Return	Period

	Water		Without			With		
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
1	0.0-0.25	75.8	2.893	219	0.0	2.893	0	219
2	0.25-0.5	62.0	2.893	179	0.0	2.893	0	179
3	0.5-1.0	117.2	2.893	339	0.0	2.893	0	339
4	1.0-1.5	103.0	2.893	298	29.5	2.893	85	213
5	1.5-2.0	10,3	2.893	30	0.0	2.893	0	30
	Total	368,3	2.893	1,065	29.5	2.893	85	980

(2) 5-Year Return Period

	Water							
No.	Depth	Inundation	No. of IIII No. of IIII	Inundation 1	No. of IIII	No. of HH	(A)-(B)	
	(m)	Area (km²)	per km²	· (A)	Area(km²)	per km²	(B)	
i	0.0-0.25	48.6	2.893	141	38.8	2.893	112	28
2	0.25-0.5	48,1	2.893	139	19.6	2.893	57	82
3	0.5-1.0	95.9	2.893	277	29.5	2.893	85	192
4	1.0-1.5	153.9	2.893	445	0.0	2.893	0	445
5	1.5-2.0	32.2	2.893	.93	0.0	2.893	0	93
	Total	378.7	2.893	1,096	87.9	2.893	254	841

(3) 10-Year Return Period

	Water	Water Without				With		
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	•
1	0.0-0.25	46.5	2,893	135	52.4	2.893	152	-17
2	0.25-0.5	50,7	2.893	147	26.4	2.893	76	70
3	0.5-1.0	103.5	2 893	299	39.7	2.893	-115	185
4	1.0-1.5	125,9	2.893	364	2.3	2.893	7	358
5	1.5-2.0	65.5	2.893	189	3.1	2.893	9	181
	Total	392.1	2.893	1,134	123.9	2.893	358	776

(4) 20-Year Return Period

	Water		Without			With		
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)
	(m)		per km²	(A)	Area(km²)	per km²	(B)	
1	0.0-0.25	35.7	2.893	103	59.3	2.893	172	-68
2	0.25-0.5	39.6	2.893	115	29.0	2.893	84	31
3	0.5-1.0	80.9	2.893	234	42.8	2.893	124	110
4	1.0-1.5	115.2	2.893	333	0.4	2.893	1	332
5	1.5-2.0	130.2	2.893	377	0.7	2.893	2	375
	Total	401.6	2.893	1,162	132.2	2.893	382	779

	Water		Without			With		
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	•
1	0.0-0.25	29.3	2.893	85	102.4	2.893	296	-211
2	0.25-0.5	40.0	2.893	116	46.6	2.893	135	-19
3	0.5-1.0	85.4	2.893	247	65.3	2.893	189	58
4	1.0-1.5	92.4	2.893	267	5.0	2.893	14	253
5	1.5-2.0	165.4	2.893	479	11.5	2.893	33	445
	Total	412.5	2.893	1,193	230.8	2.893	668	526

TABLE J.2.3 AREA AND NUMBER OF HOUSEHOLDS TO BE INUNDATED IN THE OKINAWA AREA

(1)	2-Year	Return	Period

\$10.00 mm	Water		Without			With		
No.	Depth	Inundation	No. of HH	No. of IIII	Inundation	No. of HH	No. of HII	(A)·(B)
	(m)		per km²	(A)	Area(km²)	per km²	(B)	
J	0.0-0.25	47.1	1.913	90	0.0	1,913	Ō	90
2	0.25-0.5	37.6	1.913	72	0.0	1.913	0	72
3	0.5-1.0	70.5	1.913	135	0.0	1.913	0	135
4	1.0-1.5	0.0	1.913	0	0.0	1.913	0	0
5	1.5-2.0	0.0	1.913	0 .	0.0	1.913	0	0
	Total	155.2	1.913	297	0,0	1.913	0	297

(2) 5-Year Return Period

	Water		Without			With		Î (A)-(B)
No.	Depth	Inundation	No. of HH	No. of IIII	Inundation	No. of HH	No. of HH (B)	
1	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²		
l	0.0-0.25	31.1	1.913	60	12.5	1.913	24	36
2	0.25-0.5	36,2	1.913	69	2,5	1.913	5	64
3	0.5-1.0	74.9	1.913	143	0.0	1.913	0	143
4	1.0-1.5	21.6	1.913	41	0.0	1.913	0	41
5	1.5-2.0	4.5	1.913	9	0.0	1.913	0	9
	Total	168.4	1.913	322	15.0	1.913	29	293

(3) 10-Year Return Period

	Water		Without			With		
No.	Depth	Inundation	No. of HH	No. of IIII	Inundation	No. of HH per km²	No. of HH (B)	(A)-(B)
	(m)	````	per km²	(A)	Area(km²)			
1	0.0-0.25	32,0	1.913	61	35.6	1.913	68	-7
2	0.25-0.5	31.3	1,913	60	7.3	1.913	14	46
3	0.5-1.0	62.3	1.913	119	0.0	1.913	0	119
4	1.0-1.5	46.2	1.913	88	0.0	1,913	0	88
5	1.5-2.0	24.0	1,913	46	0.0	1.913	0	46
	Total	195.8	1,913	375	42.8	1.913	82	293

(4) 20-Year Return Period

-	Water		Without			With		
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HII	No. of HH No. of HH	
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
l	0.0-0.25	21,4	1.913	41	62.9	1.913	120	-79
2	0.25-0.5	23.2	1.913	44	14.3	1.913	27	17
3	0.5 - 1.0	47.4	1.913	91	4.4	1.913	8	82
4	1.0-1.5	54.7	1.913	105	0.0	1.913	0	105
5	1.5-2.0	61.8	1.913	118	0.0	1.913	0	118
	Total	208.5	1.913	399	81.6	1.913	156	243

	Water		Without			With		(A)-(B)
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of IIII	No. of HH	
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
1	0.0-0.25	13.0	1.913	25	64.3	1.913	123	-98
2	0.25-0.5	17.2	1.913	33	18.3	1.913	35	-2
3	0.5-1.0	36.5	1.913	70	13.5	1.913	26	44
4	1.0-1.5	54.6	1.913	105	0.0	1.913	0	105
5	1.5-2.0	97.8	1.913	187	0.0	1.913	0	187
	Total	219.1	1.913	419	96.0	1.913	184	235

TABLE J.2.4 AREA AND NUMBER OF HOUSEHOLDS TO BE INUNDATED IN THE SAN JUAN AREA

(1)	2-Y	ear l	Ref	ักรถ	P	riod

	Water		Without			With		. And the state of
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
1	0.0-0.25	151.8	2.676	406	42.3	2.676	113	293
2	0.25-0.5	87.9	2.676	235	54.6	2.676	146	89
3	0.5-1.0	143.8	2.676	385	115.3	2.676	308	76
4	1.0-1.5	112.8	2.676	302	106.3	2.676	285	17
5	1.5-2.0	0.0	2.676	0	0.0	2.676	0	0
	Total	496.3	2.676	1,328	318.4	2.676	852	476

(2) 5-Year Return Period

	Water		Without			With		
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)- (B)
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
1	0.0-0.25	123.4	2.676	330	50.9	2.676	136	194
2	0.25-0.5	89.4	2.676	239	56.6	2.676	151	88
3	0.5-1.0	161.7	2.676	433	116.1	2,676	311	122
4	1.0-1.5	139.1	2.676	372	115,0	2.676	308	64
5	1.5-2.0	0.0	2.676	0	0.0	2.676	0	0
	Total	513.6	2.676	1,374	338.5	2.676	906	469

(3) 10-Year Return Period

	Water		Without			With		
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH (B)	(A)-(B)
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²		
l	0.0-0.25	113.8	2.676	304	68.7	2.676	184	121
2	0.25-0.5	98.4	2.676	263	51.2	2.676	137	126
3	0.5-1.0	189.0	2,676	506	93.5	2.676	250	255
4	1.0-1.5	174.6	2.676	467	150.9	2.676	404	63
5	1.5-2.0	0.0	2.676	0	0.0	2.676	0	0
	Total	575.8	2.676	1,541	364.4	2.676	975	566

	Water		Without			With	·	<u>, , , , , , , , , , , , , , , , , , , </u>
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
l	0.0-0.25	90.5	2.676	242	64.2	2.676	172	70
2	0.25-0.5	94.8	2.676	254	54.8	2.676	147	107
3	0.5-1.0	191.6	2.676	513	105.0	2.676	281	232
4	1.0-1.5	213.5	2.676	571	169.4	2.676	453	118
5	1.5-2.0	0.0	2.676	0	13.5	2.676	36	-36
	Total	590.4	2.676	1,580	407.0	2.676	1,089	491

	Water		Without			With		
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	
i	0.0-0.25	101.3	2.676	271	80.8	2.676	216	55
2	0.25-0.5	93.6	2.676	250	62.7	2.676	168	83
3	0.5-1.0	183.3	2.676	491	116.5	2.676	312	179
4	1.0-1.5	225.8	2.676	604	170.8	2.676	457	147
5	1.5-2.0	22.6	2.676	60	37.6	2.676	101	-40
	Total	626.6	2.676	1,677	468.4	2.676	1,253	423

TABLE J.2.5 AREA AND NUMBER OF HOUSEHOLDS TO BE INUNDATED IN THE ANTOFAGASTA AREA

(1)	2-Van	Reinen	Daviad
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	Water		Without	Alai da mahamban Engan San asa asa asa sa	· · · · · · · · · · · · · · · · · · ·	With	······································		
No.	Depth	Inundation	No. of HH	No. of IIII	Inundation	No. of HH	No. of HH	(A)-(B)	
	<u>(m)</u>	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)		
1	0.0-0.25	84. 5	3.015	255	51.9	3.015	157	98	
2	0.25-0.5	63.7	3.015	192	16. 4	3.015	49	143	
3	0.5-1.0	117. 0	3.015	353	15.0	3.015	45	307	
4	1.0-1.5	21.6	3.015	65	9. 3	3.015	28	37	
5	1.5-2.0	0.0	3.015	0	0.0	3.015	0	0	
	Total	286.8	3.015	865	92.6	3.015	279	585	

____ (2) 5-Year Return Period

	Water		Without			With	······································		
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of IIII	No. of HH	(A)-(B)	
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	. , , ,	
I	0.0-0.25	77.0	3.015	232	93. 0	3.015	280	-48	
2	0.25-0.5	71. 2	3.015	215	22. 2	3.015	67	148	
3	0.5-1.0	139. 4	3.015	420	9. 1	3.015	27	393	
4	1.0-1.5	30. 2	3.015	91	7, 8	3.015	24	67	
5	1.5-2.0	0. 0	3.015	0	0.0	3.015	0	0	
	Total	317.8	3.015	958	132.1	3.015	398	560	

(3) 10-Year Return Period

	Water		Without			With			
No.	Depth	Inundation	No. of HH	No. of HR	Inundation	No. of HIII	No. of HH	(A)-(B)	
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)		
1	0.0-0.25	93. 2	3.015	281	123.6	3.015	373	-91	
2	0.25-0.5	79. 4	3.015	239	30. 2	3.015	91	148	
3	0.5-1.0	151.9	3.015	458	13.8	3.015	42	416	
4	1.0-1.5	48.8	3.015	147	8.9	3.015	27	120	
_5	1.5-2.0	0.0	3.015	0	0.0	3.015	0	0	
	Total	373.4	3.015	1,126	176.5	3.015	532	594	

(4) 20-Year Return Period

	Water		Without			With			
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)	
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(8)		
1	0.0-0.25	69. 0	3.015	208	94. 1	3.015	284	-75	
2	0.25-0.5	79. 7	3.015	240	38. 9	3.015	117	123	
3	0.5-1.0	164. 7	3.015	497	50. 3	3.015	152	345	
4	1.0-1.5	64. 9	3.015	196	15. 7	3.015	47	148	
5_	1.5-2.0	0.0	3.015	0	0.0	3.015	0	0	
	Total	378.3	3.015	1,141	199.0	3.015	600	541	

	Water		Without			With			
No.	Depth	Inundation	No. of HH	No. of HH	Inundation	No. of HH	No. of HH	(A)-(B)	
	(m)	Area (km²)	per km²	(A)	Area(km²)	per km²	(B)	• • • • • • • • • • • • • • • • • • • •	
1	0.0-0.25	44.9	3.015	135	99.6	3.015	300	-165	
2	0.25-0.5	62.1	3.015	187	45.6	3.015	137	50	
3	0.5-1.0	132.7	3.015	400	64. 1	3.015	193	207	
4	1.0-1.5	102.0	3.015	308	19. 7	3.015	59	248	
5	1.5-2.0	40.8	3.015	123	1. 2	3.015	4	119	
	Total	382.5	3.015	1,153	230.1	3,015	694	459	

TABLE J.2.6(1) DISTRIBUTION OF ASSETS TO BE INUNDATED IN THE RIO CHANE AREA (WITHOUT)

1	Distribution	Total	Ro	sidence		Shop	School	Factory	Health
ı	of	_	High	Medium	Low				Center
1	Buildings	100.0%	8.0%	33.0%	55.0%	3.0%	0.2%	0.5%	0.3%

	rear		Period	_

	Water		Number of Buildings								Agricultural Crops (ha)				
No.	Depth (m)	Total	Res High M	idence ledium	Low	Shop	School	Factory	Health Center	Soy- beans	Rice	Sugar cane	Maize	Total	
<u>-</u> -	0.0-0.25	66	5	22	36	2	0	0	0	197	222	952	57	1,428	
2	0.25-0.5	96	8	32	53	3	0	0	0	275	310	1,007	80	1,672	
3	0.5-1.0	207	17	68	114	6	0	1	1	588	662	2,042	172	3,464	
4	1.0-1.5	62	5	20	34	2	0	0	0	190	214	1,008	56	1,468	
5	1,5-2,0	6	0	2_	3	0	0	0	0	19	22	101	6	148	
	Total	437	35	144	241	13	1	2	. 1	1,269	1,430	5,110	371	8,180	

(2) 5-Year Return Period

	Water		Number of Buildings							Agricultural Crops (ha)					
No.	Depth (m)	Total	Res High M	idence ledium	Low	Shop	School	Factory	Health Center	Sey- beans	Rice	Sugar	Maize	Total	
1	0.0-0.25	66	5	22	36	2	0	0	0	197	222	952	57	1,428	
2	0.25-0.5	96	8	32	53	3	0	0	0	275	310	1,007	80	1,672	
3	0.5-1.0	207	17	68	114	6	0	l	Į	588	662	2,042	172	3,464	
4	1.0-3.5	56	5	19	31	2	0	0	0	173	194	917	51	1,335	
5	1,5-2.0	12	ŧ	4	7	0	. 0	0	0	36	41	193	11	281	
	Total	437	35	144	241	13	1	2	1	1,269	1,429	5,111	371	8,180	

(3) 10-Year Return Period

	Water			Nur	nber of	Buildin	gs			•	Agricul	tural Cre	ops (ha)	
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)	-	High M	ledium	Low	•			Center	beans		cane		
1	0.0-0.25	66	5	22	- 36	2	0	0	0	86	97	623	25	831
2	0.25-0.5	96	8	32	53	3	0	0	0	203	228	660	59	1,150
3	0.5-1.0	207	17	68	114	6	0	1	1	464	523	1,339	136	2,462
4	1.0-1.5	56	5	19	31	2	0	0	0	338	382	1,988	99	2,807
5	1.5-2.0	12	1	4	7	0	0	0	0	176	198	1,034	SI	1,459
	Total	437	35	144	241	13	ı	2	1	1,267	1,428	5,644	370	8,709

(4) 20-Year Return Period

	Water			Nui	nber of	Buildin	25				Agricul	tural Cr	ops (ha)	
No.	Depth (m)	Total	Res High N	idence ledium	Low	Shop	School	Factory	Health Center	Soy- beans	Rice	Sugar cane	Maize	Total
Ti T	0,0-0.25	14	1	5	8	0	0	0	0	Q	0	383	0	383
2	0.25-0.5	14	1.1	5	- 8	0	0	0	0	0	0	386	0	386
3	0.5-1.0	29	2	10	16	ŧ	0	0	0	0	0	772	0	772
4	1.0-1.5	196	16	65	108	6	0	1	1	595	671	2,055	174	3,495
5	1,5-2.0	221	18	73	122	7	0	1	1	672	756	2,320	190	3,938
	Total	474	38	156	261	14	1	2	ī	1,267	1,427	5,916	364	8,974

	Water			Nun	nber of	Buildin	gs				Agricul	tural Cr	ops (ha)	
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(nı)	_	High M	cdium,	Low	_			Center	beans		cane		
ı	0.0-0.25	15	1	5	8	0	0	0	0	0	0	453	0	453
2	0.25-0.5	13	1	4	7	0	0	0	0	0	0	350	0	350
3	0.5-1.0	25	2	8	14	1	0	0	0	0	0	650	0	650
4	1,0-1,5	153	12	50	84	5	0	1	0	455	512	1,662	133	2,762
5	1,5-2.0	273	22	90	150	8	1	1	i i	816	924	2,970	230	4,940
	Total	479	38	158	263	₹4	ī	2	i	1,271	1,436	6,085	363	9,155

TABLE J.2.6(2) DISTRIBUTION OF ASSETS TO BE INUNDATED IN THE RIO CHANE AREA (WITH)

Distribution	Total	Residence		Shop	School	Factory	Health
of		High Medium	Low				Center
Buildings	100.0%	8.0% 33.0%	55.0%	3.0%	0.2%	0.5%	0.3%

(1) 2-Year Return Period

	Water			Nun	ober of	Buildin	gs				Agricu	ltural C	rops (ha)	
No.	Depth	Total	Resi	dence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	coium	Low			•	Center	beans.		çane		
]	0.0-0.25	0	0	0	0	0	Û	0	0	0	Û	0	Ü	0
2	0.25-0.5	23	2	7	12	i	0	0	0	58	65	135	17	275
3	0.5-1.0	56	5	19	31	2	0	0	0	143	161	338	42	684
4	1.0-1.5	138	11	46	76	4	0	1	0	346	390	1,383	101	2,220
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	217	17	72	119	7	0	1	1	517	616	1,856	160	3,179

(2) 5-Year Return Period

	Water			Nun	noce of l	Buildin	gs				Agricu	itural C	tops (ha)	
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	icdium	Low	. •		•	Center	beans		cane		
l	0.0-0.25	100	8	33	55	3	0	1	0	330	372	1,369	96	2,167
2	0.25-0.5	105	8	35	58	3	0	1	0	293	330	1,136	86	1,845
3	0.5-1.0	213	17	70	117	6	0	1	1	569	641	2,155	166	3,531
4	1.0-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1.5-2,0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	419	34	138	230	13	1	2	l	1,192	1,343	1,660	348	7,543

(3) 10-Year Return Period

	Water			Non	nber of l	Buildin	gs				Agricu	ltural C	roos (ba)	
No.	Depth	Total_		idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	edium	Low				Center	beans		cane		
J	0,0-0,25	88	7	29	49	3	0	0	0	281	317	1,253	82	1,933
2	0.25-0.5	63	. 5	- 21	35	2	0	0	0	174	197	826	51	1,248
3	0.5-1.0	113	9	37	62	3	0	1	0	295	332	1,439	86	2,152
4	1.0-1.5	77	6	25	42	2	0	0	0	221	248	700	65	1,234
5	1.5-2.0	104	8	34	57	3	0	1	0	221	336	940	80	1,577
	Total	415	36	147	245	13	i	2	ī	1,192	1,430	5.158	364	8,144

(4) 20-Year Return Period

	Water			Nur	nber of l	Buildin	gs				Agricu	Itural C	rops (ha)	
No.	Depth (m)	Total	Res High M	idence ledium	Low	Shop	School	Factory	Health Center	Soy- beans	Rice	Sugar	Maize	Total
ī	0,0-0,25	53	4	17	29	2	0	0	0	134	152	955	39	1.280
2	0.25-0.5	49	4	16	27	ì	0	0	0	140	158	676	41	1.015
3	0.5-1.0	95	8	31	. 52	3	0	0	0	284	320	1.213	83	1.900
4	1.0-1.5	84	7	28	46	3	0	0	0	194	218	914	57	1.383
5	1.5-2.0	155	12	51	85	5	0	ı	0	360	420	1.680	120	2,580
	Total	435	35	114	239	13		2	1	1.112	1.268	5.438	340	8,158

	Water			Nua	nber of I	Buildin	gs				Agricu	itural C	rops (ha)	
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High V	edium	Low			-	Center	beans		cane		
1	0.0-0.25	24	2	8	13	1	0	0	0	44	50	553	13	660
2	0.25-0.5	23	2	8	13	1	0	0	0	43	48	466	13	570
3	0.5-1.0	46	4	15	25	Į.	0	0	0	85	96	889	25	1,095
4	1.0-1.5	132	9	37	62	3	0	i	0	324	366	1,138	95	1,923
. 5	1.5-2.0	258	21	85	142	8	ı	3	ı	744	840	2,620	210	4.414
	Total	464	37	153	255	14	1	2	1	1.240	1.400	5,666	356	8.662

TABLE J.2.7(1) DISTRIBUTION OF ASSETS TO BE INUNDATED IN THE RIO PAILON AREA (WITHOUT)

Í	Distribution	Total	R	esidence		Shop	School	Factory	Health
	of -	•	High	Medium	Low	_			Center
•	Buildings	100.0%	8.0%	33.0%	55.0%	3.0%	0.2%	0.5%	0.3%

(1) 2-Year Return Period

	Water			Nur	nber of	Building	S			ΑΑ	griculti	urat Cro	ps (ha)	
No.	Depth	Total	Res	idence	.,	Shop S	chool	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)	•	High N	ledium	Low	•			Center	beans		cane		
ī	0.0-0.25	219	18	72	121	7	0	Ī	1	1,344	1,512	1,020	390	4,266
2	0.25-0.5	179	14	59	99	5	0	1	1	1,152	1,296	370	340	3,158
3	0.5-1.0	339	27	112	186	to	1	2	1	2,203	2,496	430	650	5,784
4	1,0-1.5	298	24	98	164	9	1	1	1	1,824	2,064	580	530	4,998
5	1.5-2.0	30	2	10	16	1	0	0	0	180	204	60	50	494
	Total	1,065	85	352	586	32	2	5	3	6,708	7,572	2,460	1,960	18,700

(2) 5-Year Return Period

	Water			Nur	nber of	Building	3\$		·	A	griculti	iral Cro	ps (ha)	
No.	Depth	Total	Res	idence		Shop S	chool	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(ni)		High N	fedium	Low				Center	beans		cane		
ı	0.0-0.25	141	11	46	77	4	0	J	0	876	984	590	260	2,710
2	0.25-0.5	139	11	46	77	4	0	ı	0	900	1,020	340	260	2,520
3	0.5-1.0	277	22	92	153	8	ì	1	1	1,824	2,052	560	530	4,966
4	1.0-1.5	445	36	147	245	13	l	2	1	2,700	3,036	950	790	7,476
5	1.5-2.0	93	7	31	SE	3	0	0	0	564	636	200	170	1,570
	Total	1,096	88	362	603	33	2	5	3	6,864	7,728	2,640	2,010	19,242

(3) 10-Year Return Period

	Water			Nw	nber of	Building:	S			A	gricult	irat Cro	ps (ha)	
No.	Depth (m)	Total		sidence fedium	Low	Shop S	chool	Factory	Health Center	Soy- beans	Rice	Sugar	Maize	Total
	0.0-0.25	135	11	41	71	4	0]	0	852	960	590	250	2,652
2	0.25-0.5	147	12	48	81	4	0	1	0	960	1,080	330	280	2,650
3	0.5-1.0	299	24	199	165	9	l	i	1	1,980	2,232	- 540	580	5,332
4	1.0-1.5	364	29	120	200	11	3	2	£.	2,196	2,472	860	640	6,168
5	1.5-2.0	189	15	63	104	6	0	1	1	1,140	1.284	440	330	3,194
	Total	1,134	91	374	624	34	2	6	3	7,128	8,028	2,760	2,080	19,996

(4) 20-Year Return Period

	Water			Nur	nber of	Building	gs			A	griculti	ral Cro	ps (ha)	
No.	Depth (m)	Total		sidence Iedium	Low	Shop S	School	Factory	Health Center	Soy- beans	Rice	Sugar	Maize	Total
- 1	0.0-0.25	103	8	34	57	3	0	1	0	588	672	590	170	2.020
2	0.25-0.5	115	9	38	63	3	0	1	0	744	840	350	220	2,154
3	0.5-1.0	234	19	77	129	7	0	3	1	1,560	1,752	580	450	4,342
4	1.0-1.5	333	27	110	- 183	10	1	2	1	2,088	2,352	590	610	5,640
_ 5	1.5-2.0	377	30	124	207	11	1	2	1	2,364	2,652	670	690	6,376
	Total	1,162	93	383	639	35	2	6	3	7,344	8,268	2,780	2,140	20,532

	Water			Nur	nber of	Building	s			A	gricula	ıral Cro	ps (ha)	
No.	Depth	Total	Res	idence		Shop S	chool	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High N	ledium	Low				Center	beans		сапе		
ì	0,0-0.25	85	7	28	47	3	0	0	0	504	564	460	150	1,678
2	0.25-0.5	116	9	38	64	3	0	1	0	768	864	350	220	2,202
3	0.5-1.0	247	20	82	136	7	0	1	l	1,668	-1,872	660	490	4,690
4	1.0-1.5	267	21	88	147	8	, I	i	i	1,668	1,872	490	490	4,520
5	1.5-2.0	479	38	158	263	14	1	2	1	2,976	3,348	870	870	8,064
	Total	1,193	95	394	656	36	2	6	4	7,584	8,520	2,830	2,220	21,154

TABLE J.2.7(2) DISTRIBUTION OF ASSETS TO BE INUNDATED IN THE RIO PAILON AREA (WITH)

Distribution	Total	Rc	sidence		Shop	School	Factory	Health
ર્ભ	l	High N	dedium	Low	· · · · · ·			Center
Buildings	100.0%	8.0%	33.0%	55.0%	3.0%	0.2%	0.5%	0.3%

(1) 2-Year Return Period

	Water			Nu	nber of	Buildin	gs				Agricu	ltural C	rops (ha)	
No.	Depth	Total	Resi	dence		Shop	School	Factory	Health	Soy	Rice	Sugar	Maize	Total
	(m)		High M	edium	Low				Center	beans		cane		
1	0.0-0.25	0	0	0	0	0	0	0	0	0	0	0	Ü	0
2	0.25-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0.5-1.0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	1.0-1.5	85	7	28	47	3	0	0	0	516	588	10	150	1,264
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	85	7	28	47	3	0	0	0	516	588	10	150	1,264

(2) 5-Year Return Period

	Water			Nus	nber of	Buildin	gs				Agricu	ltural C	rops (ha)	
No.	Depth	Total	Res	dence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	edium	Low				Center	beans		cane		
3	0.0-0.25	112	9	37	62	3	Ō	1	0	624	708	440	190	1,962
2	0.25-0.5	57	5	19	31	2	0	0	0	312	348	120	90	870
3	0.5-1.0	85	7	28	47	3	0	0	0	468	516	90	130	1,204
4	1.0-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	254	20	84	140	8	1	1	ī	1,404	1,572	650	410	4,036

(3) 10-Year Return Period

	Water			Nut	mber of	Buildin	gs				Agricu	ltural C	rops (ha)	
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)	_	High M	odium	Low			•	Center	beans		cane		
i	0.0-0.25	152	12	50	83	5	0	1	0	732	1,092	450	280	2,554
2	0.25-0.5	76	6	25	42	2	0	0	0	456	516	140	130	1,242
3	0.5-1.0	115	9	38	63	3	0	1	0	648	732	120	190	1,690
- 4	1.0-1.5	7	1	2	4	0	0	0	0	12	24	40	10	86
5	1.5-2.0	9	1	3	5	0	0	0	0	12	36	50	10	108
	Total	358	29	118	197	11	ī	2	1	1.860	2.400	800	620	5,680

(4) 20-Year Return Period

	Water			Nu	mber of	Buildin	gs				Agricu	Itural C	rops (ha)	,
No.	Depth	Total	Res	ridence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	fedium	Low			I	Center	beans		cano		
1	0.0-0.25	172	[4	57	94	5	0	ı	1	1,008	1,128	490	290	2,916
2	0.25-0.5	. 84	7	28	46	3	0	0	0	480	552	150	140	1,322
3	0.5-1.0	124	10	41	68	4	0	1	0	708	804	120	210	1,842
4	1.0-1.5	1	0	6	1	0	0	0	0	0	0	20	0	20
. 5	1.5-2.0	2	0	1	1	0	0	0	0	0	0	40	0	40
	Total	382	31	126	210	11	1	2	1	2,196	2,484	820	640	6,140

	Water		_	Nu	mber of		9-				Agricu	Itural C	rops (ha))
No.	Depth	Total	Res	idence	-	Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	edium	Low	_			Center	beans		cane		
ì	0.0-0.25	296	24	98	163	9	ł	1	i i	2,004	2,256	860	580	5,700
2	0.25-0.5	135	11	44	74	4	0	1	0	864	972	210	250	2,296
3	0.5-1.0	189	15	62	. 104	6	0	1	1	1,152	1,296	110	340	2,898
4	1.0-1.5	14	1	5	8	0	0	0	0	84	96	10	20	210
5	1.5-2.0	33	3	- 11	18	1	0	0	0	192	216	20	50	478
	Total	668	53	220	367	20	ī	3	2	4 296	4.836	1,210	1.240	11.582

TABLE J.2.8(1) DISTRIBUTION OF ASSETS TO BE INUNDATED IN THE OKINAWA DRAINAGE AREA (WITHOUT)

1	Distribution	Total		Residence		Shop	School	Factory	Health
Ì	ર્ભ	•		Medium	Low				Center
	Buildings	100.0%	8.0%	33.0%	55.0%	3.0%	0.2%	0.5%	0.3%

(1)	12-Yes	r Ret	n en	Period

*·	Water			Nu	nber of	Buildin	gs				Agricult	urat Crop	os (ha)	
No.	Depth	Total	Ī	Residence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High	Medium	Low				Center	beans		cane		
1	0.0-0.25	90	7	30	50	3	0	0	G	2,030	44	0	480	2,554
2	0.25-0.5	72	6	24	40	2	0	0	0	1,471	32	0	348	1,851
3	0.5-1.0	135	11	45	74	4	0	1	0	2,663	58	0	630	3,351
4	1.0-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	_0	0	0
	Total	297	24	98	163	9	ı	ī	1	6,164	134	0	1,458	7,756

(2) 5-Year Return Period

	Water			Nu	nber of	Buildin	gs				Agricult	ural Crop	s (ha)	
No.	Depth	Total	R	esidence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)	-	High	Medium	Low	-			Center	beans		cane		
]	0.0-0.25	60	5	20	33	2	0	0	0	1,273	28	0	301	1,602
2	0.25-0.5	69	6	23	38	2	0	0	0	1,496	32	0	357	1,885
3	0.5-1.0	143	11	47	79	4	0	ţ	0	3,104	67	0	735	3,906
4	1.0-1.5	41	3	14	23	1	0	0	. 0	632	13	0	150	795
- 5	1.5-2.0	9	ı	3	5	0	0	0	0	133	2	0	31	166
	Total	322	26	106	177	10	ī	2	1	6,638	142	0	1,574	8,354

(3) 10-Year Return Period

	Water			Nur	nber of	Buildin	gs				Agricult	ural Cros	s (ha)	
No.	Depth	Total	1	Residence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)	•	High	Medium	Low				Center	beans		cane		
1	0.0-0.25	61	5	20	34	2	0	0	0	1,399	30	0	331	1,760
2	0.25-0.5	60	5	20	33	2	0	0	0	1,334	29	0	316	1,679
3	0.5-1.0	119	10	39	65	4	0	1	0	2,636	58	0	624	3,318
4	1.0-1.5	88	7	29	48	3	. 0	0	0	1,621	35	0	384	2,040
5	1.5-2.0	46	4	15	25	1	0	0	0	844	18	0	200	1,062
	Total	374	30	123	206	11	ì	2	1	7,834	170	0	1,855	9,859

	Water			Nw	nber of	Buildin	gs				Agricule	ural Crop	s (ha)	
No.	Depth	Total		Residence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(n:)	-	High	Medium	Low				Center	beans		cane		
1	0.0-0.25	41	3	14	23	1	0	0	0	889	19	0	210	1,118
2	0.25-0.5	44	4	. 15	24	ı	0	0	0	973	22	0	230	1,225
3	0.5-1.0	91	7	30	50	3	0	0	0	1,987	43	0	470	2,500
4	1.0-3.5	105	8	35	58	3	0	1	0	2,093	46	0	495	2,634
5	1.5-2.0	118	9	39	65	4	0	1	0	2,364	46	0	560	2,970
	Total	399	32	132	219	12	1	2	1	8,306	176	0	1,965	10,447

	Water			Nur	nber of	Buildin	gs				Agricult	ural Crop	s (ha)	
No.	Depth	Total		Residence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)	•	High	Medium	Low				Center	beans		cane		
1	0.0-0.25	25	2	8	14	1	0	0	0	455	10	0	108	573
2	0.25-0.5	33	3	11	18	ı	0	0	0	703	16	0	166	885
3	0.5-1.0	70	6	23	. 39	2	0	0	0	1,530	34	0	362	1,926
4	1.0-1.5	105	8	35	58	3	0	ï	0	2,141	47	0	507	2,695
5	1.5-2.0	187	15	62	. 103	6	0	1	ı	3,828	84	0	910	4,822
	Total	420	34	139	23 E	13	1	2	<u> </u>	8,657	191	0	2,053	10,901

TABLE J.2.8(2) DISTRIBUTION OF ASSETS TO BE INUNDATED IN THE OKINAWA DRAINAGE AREA (WITH)

Distribution	Total	P	tesidence		Shop	School	Factory	Health
of		High	Medium	Low				Center
Buildings	100.0%	8.0%	33.0%	55.0%	3.0%	0.2%	0.5%	0.3%

- (1	1 1	2-1	Ze a r	Refur	n Period
- 1	.,	4			

	Water			Nu	mber of	Buildi	ngs				Agricul	ural Cr	ops (ha)	
No.	Depth	Total	F	tesidence		Shop	School	Factory	Health	Soy	Rice	Sugar	Maize	Total
	(m)		High	Medium	Low	-		-	Center	beans		cane		
1	0.0-0.25	0	0	0	0	0	0	0	0	Ö	0	0	0	0
2	0.25-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0
3 -	0.5-1.0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	1.0-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	()	0	0	0	0	0	0	0	0	0	0	0	0

(2) 5-Year Return Period

	Water			Nu	imber of	Buildii	ngs				Agricultu	ral Cr	ops (ha)	
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice S	Sugar	Maize	Total
	(m)	_	High N	ledium	Low	_		_	Center	beans		cane		
ī	0.0-0.25	24	2	8	13	i	0	0	0	516	11	0	122	619
2	0.25-0.5	5	0	2	3	0	0	0	0	103	2	0	24	129
3	0.5-1.0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	1.0-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	29	2	10	16	1	0	0	0	619	13	0	146	778

(3) 10-Year Return Period

	Water			Nı	imber of	Buildi	ngs				Agricul	tural Cr	ops (ha)	
No.	Depth	Total	1	Residence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High	Medium	Low	_		-	Center	beans		cane		
1	0.0-0.25	68	5	22	37	2	0	0	0	1381	30	0	327	1,738
2	0.25-0.5	14	1	5	8	0	0	0	0	276	6	0	65	347
3	0.5-1.0	. 0	0	0	0	0	0	0	0	0	0	0	0	0
4	1.0-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	82	7	27	45	2	0	0	0	1,657	36	0	392	2,085

(4) 20-Year Return Period

	Water			Nu	imber of	f Buildii	ngs				Agricul	tural Cr	ops (ha)	
No.	Depth (m)	Total		sidence dedium	Low	Shop	School	Factory	Health Center	Soy- beans	Rice	Sugar	Maize	Total
$\overline{}$	0.0-0.25	120	10	40	66	4	0	1	0	2,233	48	0	529	2,810
2	0.25-0.5	27	2	9	15	ì	0	0	0	527	12	0	125	664
3	0.5-1.0	8	ı	3	. 4	0	0	0	0	200	5	0	48	253
4	1,0-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0
. 5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	155	12	51	85	5	0	l	v	2,960	65	0	702	3,727

	Water			Nu	imber of	Buildi	ngs				Agricu	tural Cr	ops (ha)	
No.	Depth	Total	R	esidence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)	_	High	Medium	Low	_			Center	beans		cane		
1	0.0-0.25	123	10	41	68	4	0]	0	2,322	50	0	549	2,921
2	0.25-0.5	35	3	12	19	1	0	0	0	694	16	0	164	874
3	0.5-1.0	26	2	9	14	1	0	0	0	574	12	0	136	722
4	1.0-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1.5-2.0	0 -	0	0	0	0	0	0	0	0	0	0	0	0
	Total	184	15	61	101	6	0	ĺ	l	3,590	78	0	849	4,517

TABLE J.2.9(1) DISTRIBUTION OF ASSETS TO BE INUNDATED IN THE SAN JUAN AREA (WITHOUT)

Distribution	Total	Rc	sidence		Shop	School	Factory	Health
of		High N	ledium	Low				Center
Buildings	100.0%	8.0%	33.0%	55.0%	3.0%	0.2%	0.5%	0.3%

(1) 2-Year Return Period

_	Water			Num	ber of I	Buildin;	gs				Agriculti	ural Cro	ps (ha)	
No.	Depth	Total	{	Residence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High	Medium	Low				Center	beans		cane		
1	0.0-0.25	406	32	134	223	12	l	2		1,088	5,418	194	91	6,821
2	0.25-0.5	235	19	78	129	7	0	1	1	632	3,163	39	53	3,887
3	0.5-1.0	385	31	127	212	12	j	2	1	1,036	5,184	0	86	6,306
4	1,0-1.5	302	24	100	166	9	l	2	1	613	3,069	0	51	3,733
5	1.5-2.0	0	0	0	0	0	0	0	. 0	0	0	0	0	0
	Total	1,328	106	438	730	40	3	7	4	3,369	16,864	233	281	20,747

(2) 5-Year Return Period

	Water			Num	ber of l	Buildin	gs				Agricult	ural Cro	ps (ha)	
No.	Depth	Total	5	Residence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)	_	High	Medium	Low	-		•	Center	beans		çane		
1	0.0-0.25	330	26	109	182	10	ı	2	3	884	4,428	191	74	5,577
2	0.25-0.5	239	19	79	131	7	0	1	ı	639	3,197	40	53	3,929
3	0.5-1.0	433	35	143	238	13	1	2	1	1,154	5,779	6	96	7.035
4	1.0-1.5	372	30	123	205	11	1	2	1	794	3,972	0	66	4,832
5_	1.5-2.0	0	0	0	0	- 0	0	0	0	0	0	0	0	0
	Total	1,374	110	453	756	41	3	7	4	3,471	17,376	237	289	21,373

(3) 10-Year Return Period

	Water			Num	ber of i	Buildin	25				Agricult	ural Cro	ps (ha)	
No.	Depth	Total		Residence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High	Medium	Low				Center	beans		cane		
1	0.0-0.25	304	24	100	167	9	i	2	ī	821	4,108	144	68	5,141
2	0.25-0.5	263	21	87	145	8	1	1	1	705	3,531	52	59	4,347
3	0.5-1.0	506	40	167	278	15	I	3	2	1,353	6,774	57	113	8,297
4	1.0-1.5	467	37	154	257	14	1	2	1	1,029	5,151	0	86	6,266
_ 5	1.5-2.0	0	0	0	0	0	0	0	0	0	. 0	. 0	0	Ċ
	Total	1,540	123	508	847	46	3	8	5	3,908	19,564	253	326	24.051

(4) 20-Year Return Period

	Water			Nuo	ber of I	Buildin	gs.				Agriculti	iral Cro	ps (ha)	
No.	Depth	Total		Residence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m) [*]		High	Medium	Low			•	Center	beans		cane		
1	0.0-0.25	242	19	80	133	7	0	i	i	665	3,327	137	55	4.184
2	0.25-0.5	254	20	84	140	8	1	. 1	1	683	3,421	53	57	4.214
3	0.5-1.0	513	41	169	282	15	1	3	2	1,376	6,890	63	115	8.444
4	1.0-1.5	571	46	188	314	17	1	. 3	2	1.294	6,475	0	108	7,877
_5	1,5-2.0	0	0	: 0	0	0	0	0	0	0	0	0	0	0
	Total	1,580	126	521	869	47	3	8	5	4,018	20.113	253	335	24,719

	Water			Num	ber of i	Buildin	gs				Agricultu	ral Cro	ps (ha)	
No.	Depth	Fotal		Residence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Tota1
	(nı)		High	Medium	Low	_		•	Center	beans		cane		
l	0.0-0.25	271	22	89	149	8	l	1	1	747	3,740	137	62	4,686
2	0.25-0.5	250	20	83	138	8	i	1	ı	671	3,391	62	57	4,187
3	0.5-1.0	491	39	162	270	15	1	2	I	1,320	6,609	86	110	8,125
4	1.0-1.5	604	48	199 .	332	18		3	2	1,404	7,027	0	117	8.548
_5	1,5-2,0	60	5	20	33	2	0	0	0	110	703	0	12	855
	Total	1,676	134	553	922	50	3	8	5	4.288	21,470	285	358	26,401

TABLE J.2.9(2) DISTRIBUTION OF ASSETS TO BE INUNDATED IN THE SAN JUAN AREA (WITH)

Distribution	Total	Residence		Shop	School	Factory	Health
of		High Medium	Low				Center
Buildings	100.0%	8.0% 33.0%	55.0%	3.0%	0.2%	0.5%	0.3%

(1) 2-Year Return Period

	Water			Nu	mber of	Buildi	ngs				Agricul	ural Cre	ops (ha)	
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	ledium	Low				Center	beans		çane		
1	0.0-0.25	113	9	37	62	3	0	1	0	302	1,511	30	25	1,868
2	0.25-0.5	146	12	48	80	4	0	1	0	398	1,993	6	33	2,430
3	0.5-1.0	308	25	102	169	9	1	2	í	844	4,227	0	70	5,141
4	1.0-1.5	285	23	94	157	9	l	l	1	578	2,893	0	48	3,519
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	852	68	281	469	26	2	4	3	2,122	10,624	36	176	12,958

(2) 5-Year Return Period

	Water			Nu	mber of	Buildi	ngs				Agricul	tural Cre	ops (ha)	
No.	Depth (m)	Total	Res High V	idence ledium	Low	Shop	School	Factory	Health Center	Soy- beans	Rice	Sugar	Maize	Total
1	0.0-0.25	136	II	45	75	4	0	1	0	368	1.844	20	31	2.263
2	0.25-0.5	151	12	50	83	5	0	1	0	413	2,070	4	34	2,521
3	0.5-1.0	311	25	103	171	9	ı	2	•	850	4,253	0	71	5,174
4	1.0-1.5	308	25	103	169	9	1	2	1	639	3,196	0	53	3,888
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	. 0	. 0	0
	Total	906	72	299	498	27	2	5	3	2,270	11,363	24	189	13,846

(3) 10-Year Return Period

	Water			Nu	mber of	Buildi	ngs				Agricul	tural Cr	ops (ha)	
No.	Depth (m)	Total	Res High M	idence ledium	Low	Shop	School	Factory	Health Center	Soy- beans	Rice	Sugar	Maire	Total
1	0.0-0.25	184	15	61	101	6	0	1	1	496	2,482	54	41	3,073
2	0.25-0.5	137	11	45	75	4	0	1	0	373	1,868	11	31	2.283
3	0.5-1.0	250	20	83	138	8	ı	1	1	685	3,429	0	57	4 171
4	1.0-1.5	404	32	133	222	12	1	2	1	894	4,474	0	75	5,443
5	1.5-2.0	0	0	. 0	0	0	0	0	0	0	0	0	0	0
	Total	975	78	322	536	29	2	5	3	2,118	12,253	65	204	14,970

(4) 20-Year Return Period

	Water			Nu	mber of	Buildi	ngs				Agricul	tural Cr	ops (ha)	
No.	Depth (m)	Total	Res High M	idence ledium	Low	Shop	School	Factory	Health Center	Soy- beans	Rice	Sugar	Maize	Total
<u> </u>	0.0-0.25	172	14	57	95	5	0	ì	1	451	2,259	47	38	2.795
2	0.25-0.5	147	12	49	81	4	Ō	1	0	402	2,013	14	34	2.463
3	0.5-1.0	281	22	93	155	8	1	ŝ	1	780	3,904	11	65	4.760
4	1.0-1.5	453	36	149	249	14	1	2	1	1,018	5,094	0	85	6 197
5	1,5-2.0	36	3	. 12	20	1	0	0	0	81	408	0	7	496
	Total	1,089	87	359	599	33	2	5	3	2,732	13,678	72	229	16.711

	Water	No. of					Buildings				······································	Agricul	tural Cro	ps (ha)
No.	Depth	Build-	Res	idence		Shop	School	Factory	Health	Soy-	Rice		Maize	Total
	(m)	dings	High V	ledium	Low				Center	beans		cane		
1	0.0-0.25	216	17	71	119	6	0	ı	1	569	2851	67	47	3,534
2	0.25-0.5	168	13	55	92	5	0	1	3	457	2286	15	38	2.796
3	0.5-1.0	312	25	103	172	9	1	2	1	857	4290	3	71	5,221
4	1.0-1.5	457	37	151	251	14	1	2	1	1049	5254	0	88	6.391
5	1,5-2.0	101	8	33	56	3	0	l	0	231	1156	0	19	1,406
	Total	1.254	100	414	690	38	3	6	4	3,163	15,837	85	263	19,348

TABLE J.2.10(1) DISTRIBUTION OF ASSETS TO BE INUNDATED IN THE ANTOFAGASTA AREA (WITHOUT)

1	Distribution	Total	Re	sidence		Shop	School	Factory	Health
	ા		High	dedium	Low				Center
1	Buildings	100.0%	8.0%	33.0%	55.0%	3.0%	0.2%	0.5%	0.3%

(1) 2-Year Return Period

	Waler	·		Nu	mber of	Buildin	gs				Agricul	ural Cr	ops (na)	
No.	Depth	Total	Res	dence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	edium	Low				Center	beans		cane		
i	0,0-0,25	255	20	81	140	8	1	1	1	1,515	1,945	386	0	3,846
2	0.25-0.5	192	15	63	106	6	0	ı	l	1,091	1,399	77	0	2,567
3	0.5-1.0	353	28	116	194	11	1	2	i	1,969	2,526	0	0	4,495
4	1.0-1.5	65	5	21	36	2	0	0	0	192	247	0	0	439
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	865	69	285	476	26	2	4	3	4,767	6,117	463	0	11,347

(2) 5-Year Return Period

	Water			Nu	inber of	Buildin	gs				Agricul	lural Cro	ops (ha)	
No.	Depth (m)	Total	Res High M	idence ledium	Low	Shop	School	Factory	Health Center	Soy- beans	Rice	Sugar cane	Maize	Total
1	0,0-0,25	232	19	77	128	7	0	i	i	1,280	1,643	403	0	3,326
2	0.25-0.5	215	17	71	118	6	0	1	1	1,235	1,585	81	0	2,901
3	0.5-1.0	420	34	139	231	13	1	2	1	2,448	3,141	0	0	5,589
4	1.0-1.5	91	7	30	50	3	0	0	0	314	404	0	0	718
5	1,5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	958	77	316	527	29	2	5	3	5,277	6,773	484	0	12,534

(3) 10-Year Return Period

	Water			Nu	mber of	Buildin	gs				Agriculi	tural Cre	ps (ha)	
No.	Depth (m)	Total	Res High V	idence edium	Low	Shop	School	Factory	Health Center	Soy- beans	Rice	Sugar cane	Maize	Total
1	0,0-0,25	281	22	93	155	8	1	1	1	1,500	1,925	516	0	3,941
2	0.25-0.5	239	19	79	131	7	0	1	ŧ	1,387	1,779	103	0	3,269
3	0.5-1.0	458	37	151	252	14	1	2	1	2,716	3,485	0	0	6,201
4	1.0-1.5	147	12	49	81	4	0	ı	0	609	782	0	0	1,391
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	1,125	90	371	619	34	2	6	3	6,212	7,971	619	0	14,802

(4) 20-Year Return Period

	Water			Nu	mber of	Buildin	gs				Agricult	ural Cre	ops (ha)	
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	ledium	Low				Center	beans		cane		
i	0.0-0.25	208	17	69	114	6	0	1	1	1,069	1,372	636	0	3,077
2	0.25-0.5	240	19	79	132	7	0	ŀ	1	1,379	1,770	127	0	3,276
3	0.5-1.0	497	40	164	273	15	1	2	i	2,914	3,739	0	0	6,653
4	1.0-1.5	196	16	65	801	6	0	1	1	911	1,169	0	0	2,080
5	1.5-2.0	. 0	0	0	. 0	0	0	0	0	0	0	0	0	. 0
	Total	1,141	91	377	628	34	2	6	3	6,273	8,050	763	0	15,086

(5) 50-Year Return Period

	Water			Nu	inber of	Buildin	gs				Agricule	ural Cro	ops (ha)	
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	cdium	Low	-			Center	beans		cane		
1	0.0-0.25	135	11	45	74	4	0	1	0	693	890	637	0	2,220
2	0.25-0.5	187	15	62	103	6	0	1	1	1,049	1,346	127	0	2,522
3	0.5-1.0	400	32	132	220	12	1	2	i	2,276	2,920	0	0	5,196
1	1.0-1.5	308	25	102	169	9	i	2	1	1,661	2,131	0	0	3,792
5	1.5-2.0	123	10	41	68	4	0	Į	0	664	852	0	0	1,516
	Total	1,153	92	380	634	35	2	G	3	6,343	8,139	764	0	15,246

TABLE J.2.10(2) DISTRIBUTION OF ASSETS TO BE INUNDATED IN THE ANTOFAGASTA AREA (WITH)

Distribution	Total	Residence		Shop	School	Factory	Health
of		High Medium	Low				Center
Buildings	100.0%	8.0% 33.0%	55.0%	3.0%	0.2%	0.5%	0.3%

(1) 2-Year Return Period

	Water			Nur	nber of	Buildi	ngs	<u>-</u> -			Agricult	toral Cro	ps (ha)	
No.	Depth (m)	Total	Resi High Vi	dence	Low	Shop	School	Factory	Health Center	Soy- beans	Rice	Sugar cane	Maize	Total
1	0.0-0.25	157	13	52	86	5	0	1	0	973	1,249	0	0	2,222
2	0.25-0.5	49	4	16	27	1	0	0	0	281	361	0	0	642
3	0.5-1.0	45	. 4	15	25	\$	0	0	0	217	278	0	0	495
4	1.0-1.5	28	2	9	15	1	0	0	0	9	12	0	0	21
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	279	22	92	153	8	1	1	1	1,480	1,900	0	0	3,380

(2) 5-Year Return Period

	Water			Nun	nber of	Buildi	ngs				Agricult	ural Cro	os (ha)	
No.	Depth	Total		idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	catum	Low				Center	beans		cane		
1	0.0-0.25	280	22	92	154	8	1	1	1	1,707	2,190	0	0	3,897
2	0.25-0.5	67	5	22	37	2	0	0	0	389	499	0	0	888
3	0.5-1.0	27	2	9	15	1	0	0	0	118	152	0	0	270
4	1.0-1.5	24	2	8	13	t	0	0	0	4	5	0	0	9
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	398	32	131	219	12	I	2]	2,218	2.846	0	0	5,064

(3) 10-Year Return Period

	Water			Nut	nber of	Buildi	ngs		******		Agricult	tural Cro		
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	edium	Low			_	Center	beans		cane		
1	0.0-0.25	373	30	123	205	11	1	2	1	2,248	2,884	Ö	0	5,132
2	0.25-0.5	91	7	30	50	3	0	0	0	526	674	0	0	1,200
3	0,5-1,0	42	3	14	23	ī	0	0	0	190	244	0	0	434
4	1.0-1.5	27	2	9	15	1	0	0	0	11	14	0	0	25
5	1.5-2.0	0	. 0	0	0	0	0	0	0	0	0	0	0	0
	Total	533	43	176	293	16	1	3	2	2,975	3,816	0	0	6,791

(4) 20-Year Return Period

	Water			Nur	nber of	Buildi	ngs				Agricult	ural Cro	ps (ha)	
No.	Depth	Total		idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High M	cdium	Low				Center	beans		cane		
1	0.0-0.25	284	23	94	156	9	i	1	ı	1,673	2,146	0	0	3,819
2	0.25-0.5	£17	9	39	64	4	0	1	0	706	906	0	0	1,612
3	0.5-1.0	152	12	50	84	5	0	i	0	928	1,191	0	0	2,119
4	1.0-1.5	47	4	16	26	3	0	0	0	81	104	0	0	185
5	1.5-2.0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Totai	600	48	198	330	18	1	3	2	3,388	4,347	0	0	7,735

(5) 50-Year Return Period

	Water			Nur	nber of	Buildi	ngs				Agricult	ural Cro	os (ha)	
No.	Depth	Total	Res	idence		Shop	School	Factory	Health	Soy-	Rice	Sugar	Maize	Total
	(m)		High V	ledium	Low	-		-	Center	beans		cane		
1	0.0-0.25	300	24	99	165	9	i	2	ì	1,745	2,238	0	0	3,983
2	0.25-0.5	137	H	45	75	4	0	I	0	825	1,059	0	0	1,884
3	0.5-1.0	193	15	64	106	6	0	1	i	1,191	1,528	0	0	2,719
4	1.0-1.5	59	5	19	32	2	0	0	0	151	194	0	0	345
5	1.5-2.0	4	0	1	2	0	0	0	0	9	12	0	0	21
	Total	693	.55	229	381	21	1	,3	2	3,921	5,031	0	0	8,952

TABLE J.2.11 AVERAGE APPRAISAL VALUES OF ASSETS IN FLOOD PRONE AREA

1. B	1. Buildings and Household Effects	d Effects	Trit · Be	2. Ag	2. Agricultural Crops				
ž	No. Kind of Assets	Buildings	House- hold Effects	No.	Crops	Yield (Tons/ha)	Unit Price (Bs/ton)	Unit Price (Bs/ha)	Land Use Efficiency (80%) (Bs/ha)
	Residence			1	(A) Soybeans (B) Soybean seeds	2.5 3.0	1,210	3,025	2,420
	(A) High Class	313,300	125,300	~	Rice	3.1	1,475	4.573	3,658
	(B) Medium Class	133,600	68,600	۱ ۳	Sugar cane	47.0	313	14.711	11,769
	(C) Low Class	006'9	14,100	, -	A Caisa		709	2504	2 003
7	Shop	69,400	115,611 *	4	IVIAIZE	P F	270	1000	COA':7
n	School	* 089*96	17,809 *						
4	Factory	255,800	492,377 *			•			
S	Health Center	28,666 *	9,237 *						
,			7 Y C. 4. 4. 7.						

Source: Results of interview survey by the JICA Study Team
Note: * Estimated from results of interview survey at the MP stage,
taking inflation and amortization into account.

TABLE J.2.12 INUNDATION DAMAGE RATE OF ASSETS

		{				0.0.00	Ş	
o Z	Inundation	General Assets	Assets	2 T	Agricu	Agricultural rield Crops	Squ	Maire
	Depth	Sanding	Buildings Housenoid	Soybeans	Con Ivon & (Nice San Ivan & Change Pailon	Sugar Cane	ATOTAL
	(cm.)		Ellects		Antofafasta	Antofafasta & Okinawa		
7	0 - 25	0.070	0.111	0.109	0.044	0.107	0.095	0.122
7	25 - 50	0.099	0.127	0.328	0.130	0.321	0.284	0.366
т	50 - 100	0.177	0.254	0.655	0.260	0.641	0.567	0.731
4	100 - 150	0.226	0.325	0.937	0.674	0.928	0.878	0.988
Ś	150 - 200	0.227	0.343	1.000	1.000	1.000	1.000	1.000

Source: Results of interview survey by the JICA Study Team Note: 1) San Juan & Antofacasta areas: Wet rice Chane, Pailon & Okinawa areas: Dry rice

TABLE J.2.13 FLOOD DAMAGE IN THE RIO CHANE AREA

TABLE J.2.14 FLOOD DAMAGE IN THE RIO PAILON AREA

		ness Total ities	1,438 75,203		1,745 97,830	•	- 1			ness Total ities		 4		371 16,819	678 30,260			ress Total	272 67 490		387 81 119	543 90 921	
	1,000)	olic Business Ities Activities	8,147		9,890				(000)	olic Business ities Activities	940	396	2,056	300	3,840			tic Business	1	•		8 746	
	Flood Damage (Bs. 1,000	ricultural Public Crops Facilities	41.657		57,106				Flood Damage (Bs. 1,000)	gricultural Public Crops Facilities					14,447			ultural Public	37.814 7				
	Flood I	Household Agricultural Effects Crops	11.153				ļ		Flood L	Household Agricultural Effects Crops	1,287	1,919	2,828		5.295	•		Household Agricultural					
-Project		Building Hou	12,808					oject		Building Hous			3,220		6,000		on in vaniak	Building Hous		-		13.622	
(1) Without-Project	Return	Period B (Year)	63	'n	10	50	50	(2) With-Project	Return	' I	7	'n	10	20	20		in meducin	- · - · - ·	(154)			2 2	
		No.	-	7	(C)	4	n			Š.		73	ო	4	٧,			Š.	-	٠,	4 W	1 4	•
		Total	48.218	48,374	64,493	85,527	88,703			Total	29,035	34,613	52,680	62,882	78.868			Total	10 183	12,761	11,701	25,645	ì
	^	Business Activities	-	567						Business Activities	372	473			837			Business	Activities 19	3 6	ŧ &	3 5	•
	(Bs. 1,000)	Public Facilities					5,102		(Bs. 1.000)	Public Facilities	2,109		3,600	3,909	4,745		-	Public	1 104	707	286	1,112	1000
	Flood Damage (Bs. 1.	Agricultural Crops	34 989	35 139	51.258	64,851	67,696		Flood Damage (Bs. 1.000)	Agricultural Crops	20,352	23,581	37,857	46,785	59,330			Agricultural	Crops	1 666	12.401	18,081	11111
	Ĕ	Household Agricultural Effects Crops	4 380	4 385	4.385	9969	7,098		E	Household Agricultural Effects Crops	2,879	3.652	4,970	5,411	6,601		шаке	Household Agricultura	Effects	1,001	567 585	4 555	
(1) Without-Project		Building	\$ 050	090 v	\$ 069	7,803	7,907	Project		Building	3,323	4,228	5,618	6,087	7,355		(3) Reduction in Damage	Building	1746	3.5	7 to 6	71.7	> T . T
(1) With	Return	Period (Year)	,) v	, 5	202	20	(2) With-Project	E E		7	S	9	8	20	,	(S) Kedu	Return Period	(Year)	1 1	v 5	2 8	>
		ģ	-	۰ ،	4 ~) 4	· v			Š	-	~	ന	4	\$			Š.	-	- (7 6	. z	r

TABLE J.2.15 FLOOD DAMAGE IN THE OKINAWA DRAINAGE AREA

TABLE J.2.16 FLOOD DAMAGE IN THE CHANE-PAILON AREA

	(1) With	(1) Without-Project	;		.				(1) Witho	(1) Without-Project					
	Return		ĬĬ.	Flood Damage (Bs. 1,000)	(Bs. 1,000)				Return		Flo	Flood Damage (Bs. 1,000)	(Bs. 1.000		
, O	Period (Year)	Building	Household Agricultural Effects Crops	Agricultural Crops	Public Facilities	Business Activities	Total	No.	Period (Year)	Building	Household Agricultural Effects Crops	Agricultural Crops	Public Facilities	Business Activities	Total
-	2	2.858	2.479	8.810	1.815	320	16.282	m	14	20,735	18,012	85,456	13,175	2,325	139,703
٠ ،		3.649		12,170			21,707	64	S	23,614	20,562	100,972	15,019	2,651	162,818
len	01	4.718	4,130	16.753			29,140	m	01	25.278	22,113	125,117	16,112	2,843	191.463
4	ន	5,656	5,005	21,545	3,625		36,471	4	8	30,371	26,960	149,475	19,492	3,440	229,738
5	50	6,402	5,709	25,363	.	727	42,319	S	20	31,936	28,487	160,069	20,544	3,625	244,661
	(?) With Project	Project							(2) With-Project	Project					
	Return	123/201	HE HE	Flood Damage (Bs. 1.000)	(Bs. 1,000)				Return		Flo	Flood Damage (Bs. 1,000)	(Bs. 1,000)		:
Š	Period	Building	Household Agricultural	Agricultural	Public		Total	No.		Building	Household Agricultural	Agnoutural	Public		Total
ł	(Year)		Effects	Crops	Facilities	Activities			(Year)		Effects	Crops	Faculties	Activities	
A	7	0	0	0	0	٥	0	p-4	71	4,800	4,166	24,195	3,049	538	36,748
C1	Ś	167	153	324		19	772	73	S	6,584	5,724	29,024	4,184	738	46,254
m	10	471	433	898		54	2,133	m	20	6)306	8,231	46,969	5,963	1,052	71,524
4	8	956	872	1,973		110	4,533	4	8	10,333	9,171	56,928	6,631	1,171	84,234
8	20	1,277	1.146	3,082	824		6,474	S	20	14,632	13,042	76,859	9.409	1.660	115,602
			:	i					:						
	(3) Redu	(3) Reduction in Damage	mage						(3) Reduc	(3) Reduction in Damage	nage				
	Return								Return						
Š.	Period	Building	Household	Agricultural	Public	Business	Total	Š.	Period	Building	Household Agricultural	Agricultural	Public	Business	Total
	(Year)		Effects	Crops	Facilities	Activities			(Year)		Effects	Crops	Facilities	Activities	
.	61	2,858	2,479	8,810	1,815	320	16,282	-	п	15,935	13,846	61,261	10,126	1,787	102,955
N	'n	3,482	3,010	11,846			20,935	ત	Ś	17,030	14,838	71,948	10,835	1,913	116,564
'n	10	4,247	3,697	15,885			27,007	m	10	15,969	13,882	78,148	10,149	1,791	119,939
4	20	4,700	4,133	19,572			31,938	4	20	20,038	17,789	92,547	12,861	2,269	145,504
· v	8	5,125	4,563	22,281			35,845	45	80	17,304	15,445	83,210	11,135	1,965	129,059
						١									İ

TABLE J.2.17 FLOOD DAMAGE IN THE SAN JUAN AREA

TABLE J.2.18 FLOOD DAMAGE IN THE ANTOFAGASTA AREA

	Fotal		979 32 349			1,353 46,065	1,462 50,810				sss Totai ies			425 12,308		716 22,916				ss Total	ies				866 32,076	033.00
Ģ.	Pricings	` 'I								(Q	Business s Activities										s Activities					
/Be 100	7. Y. G	Facilities	\$ 549			7,665				(Bs. 1.00	Public Facilities										Facilities	٠		5,256		
Flood Domage (Be 1 000)	A Criminal	Crops	9 50		11,633	14,502	16.698	23,064		Flood Damage (Bs. 1,000)	Agricultural Crops	1,511	1,702	2,388	4,822	6,206				Agricultural	Crops	7,990	9,931	12,114	11,876	0,0,7
Ç.	Moderati	Household Agricultural Effects Crops	7 587	200	8,786	10,473	11.301	13,117		Flo	Household Agricultural Effects Crops	2,050	2,518	3,360	4,653	5,582		nage		Houschold Agricultural	Effects	5,537	6,268	7,113	6,648	400
1) Without-Project	ł	guiding	× 733	9 1	10,143	12,072	13.065	15,033	Project		Building	2,308	2,791	3,726	5,284	6,354		(3) Reduction in Damage		Building		6,425	7,352	8,346	7,781	
(1) With	D. C.	Yenod (Year)	r	3 1	ν,	ឧ	20	80	(2) With-Project	Return	Period (Year)	63	ŝ	임	8	20		(3) Reduc	Return	Period	(Year)	7	ς,	2	8	•
	1	o N	+-	-	13	'n	4	~			Š	-	63	ጠ	4	\$	l			Š		-	~	m	4	•
		Total	57.100	3.5	64,208	76,414	24 151	92,470	!		Total	43,940	46,556	51,965	61,246	70,971			:	Total		13,160	17,652	24,449	22,905	
	_ L	Business Activities	1 610		1,783			2,414			Business Activities				1,607					Business	Activities	407	504	689	\$	1
000	Es. 1.000)	Public Facilities	6,1	7,1,4	10,103	11,795	12 738	13,677		Bs. 1.000)	Public Facilities	998'9	7,250	7.889	9,106	10,407				Public	Facilities	2,306	2.853	3,906	3,632	
	Flood Damage (#S. 1.00	Agricultural Crops	10000	+7.0.7	22,608	27.847	21,700	36,154		Flood Damage (Bs. 1,000)	Agricultural Crops	15,669	16,704	19,481	23,749	28,118				Spricultural	Crops	3,665	5,904	8.366	7,951	
į	FIG	Household Agricultural Effects Crops	000	17,210	13.824	16 125	77.70	18,723		Flo	Household Agricultural	9,372	9,902	10,796	12,471	14,282		ıage		Household Agricultural	Effects	3,198	3,922	5,329	4,933	
(1) Without-Project	- 1	Building	307 7.	14,405	15.890	18 566	20.061	21,502	Project		Building	10,821	11.421	12,407	14,313	16,327		(3) Reduction in Damage	7	Building	, 	3,584	4 469	6,159	5 748	
(1) With	Return	Period (Year)		7	v	, <u>c</u>	2 6	88	(2) With-Project	Renim	Period (Year)	63	Ś	10	20	8		(3) Reduc	Return	Period	(Year)		ı ve	ှင	50	ì
		o Z	,	-₹	67	۱ (۲	> <	4 W			S S	_	C	l (ri	4	·v				Š		,		i cr	4	•

TABLE J.2.19 FLOOD DAMAGE IN THE SAN JUAN-ANTOFAGASTA AREA

	Return		正	Flood Damage	(Bs. 1,000)		
ġ	Period (Year)	Building	Household Effects	Agricultural Crops	Public Facilities	Business Activities	Total
	64	23,138			14,721	2,598	89,449
~	ن	26,033			16,539	2,919	102,342
m	음	30,638			19,460	3,434	122,479
1	8	33,126	28,705	48,398	21,022	3,710	134,961
Ś	S	36,535			23.248	4,103	154,944

	Return		豆	Flood Damage	(Bs. 1,000)		
بي ا	Period (Year)	Building	Household Effects	Agricultural Crops	Public Facilities	Business Activities	Total
	8	13,129			8,348	1,473	51,552
4	Ŋ	14,212	•		9,055	1,597	55,690
ę	10	16,133	14,156	21,869	10,298	1,817	64,273
4	ន	19,597			12,485	2,203	79,980
Ş	\$	22,681			14,465	2.553	93.887

	ld Agricultural Public	Effects Crops Facilities Activities		6,373 6,375	15,835 7,484 1,322	20,480 9,162 1,617	11,581 19,827 8,537 1,507 54,981	04 0 COT 0 COT 1
	Building He		. 000	2000	11,821	14,505	13,529	12.954
Return	Period	(Year)	ć	4	Ś	0	8	Ç
	Š		-	~	ત્ય	ო	4	v

(3) Reduction in Damage

TABLE J.3.1 ESTIMATE OF ECONOMIC COST FOR RIO CHANE PROJECT

No.	inancial Cost	11	nit : Bs. 1,	000		(6) E.(1	conomic Cost	f 1	nit : Bs. 1,	000	
	Classification		2002	-	-	No.	Classification		2002		
INU.	of Costs	LC.	F.C.	Total		ENO.	of Costs	L.C.	F.C.	Total	
	(4 C(3/3	D.C.	1.0.	Timat	-		01 (000)		1.0.	10.0.	
1	Construction Cost	0	0	0		1 C	Construction Cost	0	0	0	
	Land Acquisition	ő	ŏ	ŏ			and Acquisition	ŏ	ō	Ŏ	
	Administration	0	ŏ	ŏ			dministration	ő	ō	Ö	
	Engineering Services	355	1,419	1,774			Ingineering Services	314	1,419	1,733	
	Physical Contingency	53	213	266			hysical Contingency	47	213	260	
,	Sub-total	408	1,632	2,040			ub-total	361	1,632	1,993	
,		92	204	296			rice Escalation	0	0	0	
0	price Escalation		1,836		OM Cost	•	recensearation Itand Total	361	1,632		OM Cost
	Grand Total	500	1,630	2,330	0		naire totat	301	1,002	1,775	0
2						2					
No.	Classification		2003	······································		No.	Classification		2003		
	of Costs	I.C.	F.C.	Total			of Costs	L.C.	F.C.	Total	
										CO 043	
-	Construction Cost	23,481	38,613	62,094			Construction Cost	16,672	34,171	50,842	
	Land Acquisition	0	0	0			and Acquisition	0	0	0	
	Administration	3,105	0	3,105			Administration	2,748	0	2,748	
	Engineering Services	1,242	4,968	6,210			ingineering Services	1,099	4,968	6,067	
5	Physical Contingency	4,174	6,537	10,711			hysical Contingency	3,078	5,871	8,949	
	Sub-total	32,002	50,118	82,120			Sub-total	23,596	45,010	68,606	
6	price Escalation	9,946	8,513	18,459			orice Escalation	0	0	0	
	Grand Total	41,948	58,631	100,579	OM Cost 0	(Grand Total	23,596	45,010	68,606	OM Cost
					•						
-3			2004			3 No.	Classification		2004		
No.	_	- T - O		T		NO.		10		Total	
<u></u>	of Costs	L.C.	F.C.	Total			of Costs	I.C.	F.C.	Total	
	Out to the Cast	.33.401	20 (12	63.004		1.	Constanting Cost	16,672	34,171	50,842	
	Construction Cost	23,481	38,613	62,094			Construction Cost	10,072	0	30,642	
	Land Acquisition	0	0	2 105			Land Acquisition		0	2,748	
	Administration	3,105	100	3,105			Administration	2,748	4,968	6,067	
	Engineering Services	1,242	4,968	6,210			Engineering Services	1,099 3,078	5,871	8,949	
)	Physical Contingency	4,174	6,537	10,711			Physical Contingency Sub-total		45,010	68,606	
	Sub-total	32,002	50,118	82,120				23,5% 0	0 0	00,000	
c	price Escalation	12,882	10,858	23,740	01101		price Escalation		45,010		OM Cost
	Grand Total	44,884	60,976	100,860	OM Cost 871		Grand Total	23,596	43,010	08,000	508
4						4					
No			2005			No.	Classification	<u>: -</u>	2005		-
.,,	of Costs	L.C.	F.C.	Total		•	of Costs	L.C.	F.C.	Total	-
	01 (1019			, wall			21 000.3				-
	L Construction Cost	20,127	33,097	53,224		1	Construction Cost	14,290	29,289	43,580	
	L Construction Cost 2 Land Acquisition	20,127	33,077	95,224			Land Acquisition	0	0	42,500	
	3 Administration	2,661	o	2,661			Administration	2,355	0	2,355	
		709		3,547			Engineering Services	627	2,838	3,465	
	4 Engineering Services		2,838	•					4,819	7,410	
	5 Physical Contingency	3,525	5,390	8,915			Physical Contingency	2,591	-		
	Sub-total	27,022	41,325	68,347			Sub-total	19,863	36,946	56,810	
	6 price Escalation	13,531	10,964	24,495	0) (0 :		price Escalation	10.063	26.046	66.916	
	Grand Total	40,553	52,289	92,842	OM Cost 1,864		Grand Total	19,863	36,946	36,8R	OM Cost 1,017
T-	tal				•	Tota	.1				_
	Classification		Total		•		· Classification		Total		_
	of Costs	I.C.	F.C.	Total	•		of Costs	L.C.	F.C.	Total	_
			110,323	177,412	-	1	Construction Cost	47,633	97,631	145,264	1
	I Constantion Cost			177,412			Land Acquisition		-	-	
	1 Construction Cost	67,089	-				ATTENDATIONS OF THE PROPERTY O				
	2 Land Acquisition	0	0	0			At a second seco	3 9 6 0	0	7 95/	='
	2 Land Acquisition 3 Administration	0 8,871	0-	8,871		3	Administration	7,850	0	7,850)
	2 Land Acquisition3 Administration4 Engineering Services	0 8,871 3,548	0 0- 14,193	8,871 17,741		3 4	Administration Engineering Services	7,850 3,140	0 14,193	7,850 17,33) }
	2 Land Acquisition3 Administration4 Engineering Services6 Physical Contingency	0 8,871 3,548 11,926	0 0- 14,193 18,677	8,871 17,741 30,604		3 4	Administration Engineering Services Physical Contingency	7,850 3,140 8,794	0 14,193 16,774	7,850 17,333 25,561) 3 7
	2 Land Acquisition3 Administration4 Engineering Services6 Physical Contingency Sub-total	0 8,871 3,548 11,926 91,434	0 0- 14,193 18,677 143,193	8,871 17,741 30,604 234,628		3 4 6	Administration Engineering Services Physical Contingency Sub-total	7,850 3,140 8,794 67,417	0 14,193 16,774 128,598	7,850 17,333 25,561 196,013) 3 7 5
	2 Land Acquisition3 Administration4 Engineering Services6 Physical Contingency	0 8,871 3,548 11,926	0 0- 14,193 18,677 143,193 30,539	8,871 17,741 30,604 234,628 66,990		3 4 6	Administration Engineering Services Physical Contingency	7,850 3,140 8,794	0 14,193 16,774 128,598 0	7,850 17,333 25,560 196,013) 3 7 5

TABLE J.3.2 (1/2) ESTIMATE OF ECONOMIC COST FOR RIO PAILON PROJECT

		<u></u>	Jnit : Bs. 1	,000			Economic Cost		nit : Bs. 1	,000	
VO.	Classification		2003			No.	Classification		2003		
	of Costs	L.C.	F.C.	Total			of Costs	L.C.	F.C.	Total	
1	Construction Cost	o	0	0		1	Construction Cost	0	0	0	
2	Land Acquisition	0	0	0		2	Land Acquisition	0	0	0	
3	Administration	0	0	0			Administration	0	0	0	
4	Engineering Services	20	79	99			Engineering Services	18	79	97	
5	Physical Contingency	3	12	15			Physical Contingency	3	12	15	
	Sub-total	23	10	114			Sub-total	20	91	111	
6	price Escalation	7	15	22		6	price Escalation	0	0	0	
	Grand Total	30	106	136	OM Cost 0		Grand Total	20	91	m	OM Cost
2					•	2					
Vo.	Classification		2004		•	No.	Classification		2004		
	of Costs	LC.	F.C.	Total			of Costs	LC.	F.C.	Total	
,	Construction Cost	545	830	1 275			Construction Cons	107	236	1 131	
		0	0.0	1,375			Construction Cost	387	735	1,121	
	Land Acquisition Administration	69	0	0 69			Land Acquisition Administration	0 61	0	0 61	
	Engineering Services	28	110	138			Engineering Services	25	110	135	
	Physical Contingency	96	141	237			Physical Contingency	71	127	198	
•	Sub-total	738	1,081	1,819		,	Sub-total	544	971	1,515	
6	price Escalation	297	234	531		6	price Escalation	344	9/1	(1,515	
•	Grand Total	1,035	1,315		OM Cost	Ů	Grand Total	544	971	_	OM Cos
	:				. 0						. 0
3 No.	Classification		2005			3	01		2005		
W.	of Costs	I.C.	F.C.	Total		No.	Classification	10	2005	·C. 1-1	
	OI COSOS	1,.0,	F.C.	Total	•		of Costs	L.C.	F.C.	fotal	
1	Construction Cost	545	830	1,375		ı	Construction Cost	387	735	1,121	
2	Land Acquisition	0	0	. 0			Land Acquisition	0	0	. 0	
3	Administration	69	. 0	69			Administration	61	0	61	
4	Engineering Services	466	1,862	2,328			Engineering Services	412	1,862	2,274	
5	Physical Contingency	162	404	566			Physical Contingency	129	389	519	
	Sub-total	1,242	3,096	4,338			Sub-total	989	2,986	3,975	
6	price Escalation	622	822	1,444		6	price Escalation	0	0	0	
	Grand Total	1,864	3,918	5,782	OM Cost 21		Grand Total	989	2,986	3,975	OM Cos
4					•	4					
No.	Classification		2006		•	No.	Classification		2006		•
	of Costs	I.C.	F.C.	Total	•		of Costs	L.C.	F.C.	Total	
ı	Construction Cost	20,631	35,548	56,179		1	Construction Cost	14,648	31,458	46,106	
2	Land Acquisition	0	0	0			Land Acquisition	0	0	0	
	Administration	2,809	0	2,809			Administration	2,486	0	2,486	
4	Engineering Services	1,136	4,543	5,679			Engineering Services	1,005	4,543	5,548	
	Physical Contingency	3,686	6,014	9,700			Physical Contingency	2,721	5,400	8,121	
	Sub-total	28,262	46,105	74,367			Sub-total	20,860	41,402	62,262	
6	price Escalation	17,120	14,566	31,686		6	price Escalation	0	0	0	
	Grand Total	45,382	60,671	106,053	OM Cost 45		Grand Total	20,860	41,402	62,262	OM Cos
5		,			-	5	<u> </u>				•
No.	Classification		2007		•	No.	Classification		2007		-
	of Costs	L.C.	F.C.	Total			of Costs	L.C.	F.C.	Total	•
	Construction Cost	25,954	45,002	70,956			Construction Cost	18,427	39,825	58,252	
	Land Acquisition	0	0	. 0		2	Land Acquisition	0	0	0	
	Administration	3,548	0	3,548			Administration	3,140	0	3,140	
_	Engineering Services	1,420	5,677	7,097			Engineering Services	1,257	5,677	6,934	
5	Physical Contingency	4,638	7,602	12,240		5	Physical Contingency	3,424	6,825	10,249	
	Sub-total	35,560	58,281	93,841			Sub-total	26,247	52,327	78,574	
6	price Escalation	25,539	21,481	47,020		6	price Escalation	0	0	0	
	Grand Total	61,099	79,762	140,861	OM Cost 1,014		Grand Total	26,247	52,327	78,574	OM Cos

TABLE J.3.2 (2/2) ESTIMATE OF ECONOMIC COST FOR RIO PAILON PROJECT

I) Financial Cost 6					(2) E c 6	conomic Cost				
lo. Classification		2008			No.	Classification		2008		
of Costs	L.C.	F.C.	Total			of Costs	I.C.	F.C.	Total	
1 Construction Cost	21,466	37,166	58,632		1 0	Construction Cost	15,241	32,890	48,131	
2 Land Acquisition	0	0	0		2 1	and Acquisition	0	0	0	
3 Administration	2,932	0	2,932		3 /	Administration	2,595	0	2,595	
4 Engineering Services	1,257	5,025	6,282		4 F	ingineering Services	1,112	5,025	6,137	
5 Physical Contingency	3,848	6,329	10,177		5 F	hysical Contingency	2,842	5,687	8,529	
Sub-total	29,503	48,520	78,023		S	lub-total	21,790	43,603	65,393	
6 price Escalation	24,737	20,540	45,277		6 p	rice Escalation	0	0	0	
Grand Total	54,240	69,060	123,300	OM Cost 2,390		Grand Total	21,790	43,603	65,393	OM Cos 1,066
7					7				-	
Vo. Classification		2009	-		No.	Classification		2009		
of Costs	L.C.	F.C.	Total			of Costs	L.C.	F.C.	Total	
1 Construction Cost	27,618	46,322	73,940		10	Construction Cost	19,609	40,993	60,602	
2 Land Acquisition	0	0	0			and Acquisition	0	0	0	
3 Administration	3,697	0	3,697			Administration	3,272	0	3,272	
4 Engineering Services	1,041	4,165	5,206			Ingineering Services	921	4,165	5,086	
5 Physical Contingency	4,853	7,573	12,426			hysical Contingency	3,570	6,774	10,344	
Sub-total	37,209	58,060	95,269			Sub-total	27,372	51,932	79,304	
6 price Escalation	35,986	27,884	63,870		6 0	orice Escalation	. 0	. 0	. 0	
Grand Total	73,195	85,944	159,139	OM Cost 3,712	Č	Grand Total	27,372	51,932	79,304	OM Cos 1,547
8					8					
No. Classification		2010			No.	Classification		2010		
of Costs	L.C.	F.C.	Total	•		of Costs	L.C.	F.C.	Total	
1 Construction Cost	7,857	12,600	20,457		1 (Construction Cost	5,578	11,150	16,729	
2 Land Acquisition	0	0	0		2 !	Land Acquisition	0	0	0	
3 Administration	1,022	0	1,022			Administration	904	0	904	
4 Engineering Services	290	1,173	1,463		. 4 1	Engineering Services	257	1,173	1,430	
5 Physical Contingency	1,375	2,066	3,441		5 1	Physical Contingency	1,011	1,849	2,859	
Sub-total	10,544	15,839	26,383		;	Sub-total	7,750	14,172	21,922	
6 price Escalation	11,651	17,499	29,150	ı	61	price Escalation	. 0	0	0	
Grand Total	22,195	33,338	55,533	OM Cost 5,528		Grand Total	7,7 50	14,172	21,922	OM Cos 2,153
Total					Total					
Classification		Total		-		Classification		Total		
of Costs	L.C.	F.C.	Total	-		of Costs	L.C.	F.C.	Total	
1 Construction Cost	104,616	178,298	282,914	i	1	Construction Cost	74,277	157,786	232.063	
2 Land Acquisition	0	0	0			Land Acquisition	0	0	232,003	
3 Administration	14,146	ŏ	14,146			Administration	12,519	ŏ	12,519	
4 Engineering Services	5,658	22,634	28,292			Engineering Services	5,007	22,634	27,641	
	18,663	30,140	48,803			Physical Contingency	13,770	27,063	40,833	
	10.003		,				•	•	-	
6 Physical Contingency Sub-total	-	231,072	374.155	i		Sub-total	105 573	207 483	313()56	
6 Physical Contingency	143,083	•	•			Sub-total price Escalation	-	207,483	-	
6 Physical Contingency Sub-total	143,083 115,959	•	219,000		7	Sub-total price Escalation Grand Total	0	207,483 0 207,483	0	OM Co

TABLE J.3.3 (1/2) ESTIMATE OF ECONOMIC COST FOR OKINAWA DRAINAGE PROJECT

1_	inancial Cost		Juit : Bs. 1	,000	<u>i</u>	Economic Cost	(Joit : Bs. 1	,000	
No.	Classification	····	2001	- 	No			2001		
	of Costs	L.C.	F.C.	Total		of Costs	L.C.	F.C.	Total	
ı	Construction Cost	0	0	0	1	Construction Cost	o	0	0	
-	Land Acquisition	ŏ	ŏ	ŏ	2	Land Acquisition	Ö	ŏ	ŏ	
3	Administration	Ó	Ö	Ō	3	Administration	Ó	ō	ō	
	Engineering Services	94	374	468	4	Engineering Services	83	374	457	
	Physical Contingency	14	56	70	Š	Physical Contingency	12	56	69	
•	Sub-total	108	430	538		Sub-total	96	430	526	
6	price Escelation	16	35	31	6	price Escalation	ő	0	0	
v	Grand Total	124	465		OM Cost	Grand Total	96	430	526	ОМ
2										
No.	Classification		2002		No			2002		
	of Costs	L.C.	F.C.	Total		of Costs	LC.	f.C.	Total	
ì	Construction Cost	9,460	18,619	28,079	1	Construction Cost	6,717	16,477	23,194	
2	Land Acquisition	0	0	0	2	Land Acquisition	0	0	0	
3	Administration	1,404	ò	1,404	3	Administration	1 242	ò	1,242	
4	Engineering Services	562	2.246	2,808	4		497	2,246	2,743	
	Physical Contingency	1,714	3,130	4 814	Š		1,268	2,808	4,077	
-	Sub-total	13,140	23,995	37,135	•	Sub-total	9,725	21,531	31,256	
6	price Escalation	2,957	2,996	5,953	6		0	0	0	
-	Grand Total	16,097	26,991		OM Cost	Grand Total	9,725	21,531	31,256	ОМ
					•					. (
3					3					
Νo.	Classification		2003		No	. Classification		2003		
	of Costs	L.C.	F.C.	Total		of Costs	L.C.	F.C.	Total	
1	Construction Cost	6,307	12,413	18,720	ı	Construction Cost	4,478	10,985	15,463	
2	Land Acquisition	0	0	0	2	Land Acquisition	0	0	0	
3	Administration	936	0	936	3		828	0	828	
4	Engineering Services	322	1,293	1,615	4		285	1,293	1,578	
5	Physical Contingency	1,135	2.056	3,191	5		839	1,842	2,680	
	Sub-total	8,700	15,762	24,462		Sub-total	6,430	14,120	20,550	
6	price Escalation	2,704	2,677	5,381	6		0	0	0	
	Grand Total	11,404	18,439		OM Cost 368	Grand Total	6,430	14,120	20,550	OM 2
4			·							•
No.	Classification		2004		N.			2004		•
	of Costs .	L.C.	F.C.	Total	·	of Costs	1.C.	F.C.	Tota!	
1	Construction Cost	1,038	1,917	2,955	1	Construction Cost	737	1,696	2,433	
2	Land Acquisition	0	0	0	2		Ó	0	0	
3	Administration	148	0	148	3	Administration	131	0	131	
4	Engineering Services	59	236	295	4	Engineering Services	52	236	288	
5	Physical Contingency	187	323	510	Š	~ ~	138	290	428	
	Sub-total	1,432	2,476	3,908	-	Sub-total	1,058	2,222	3,281	
6	price Escalation	576	536	1,112	6		0	0	0	
_	Grand Total	2,008	3,012		OM Cost 658	Grand Total	1,058	2,222	3,281	
5										,
No			2005		. N			2005		
	of Costs	L.C.	F.C.	Total		of Costs	l.C.	F.C.	Total	
	Construction Cost),038	1,917	2,955	ı	Construction Cost	737	1,696	2,433	
		0	0	0,-10	2		0	0	0	
1 2	Land Acquisition		ō	148	3		131	ō	131	
-		148			4		52	236		
2	Administration			295				230	460	
2 3 4	Administration Engineering Services	59	236	295 510	5				288 428	
2 3 4	Administration	59 187	236 323	510			138	290	428	
3 4 5	Administration Engineering Services Physical Contingency Sub-total	59 187 1,432	236 323 2,476	510 3,908	5	Physical Contingency Sub-total	138 1,058	290 2,222	428 3,281	
2 3 4	Administration Engineering Services Physical Contingency	59 187	236 323	510 3,908 1,374		Physical Contingency Sub-total	138	290	428	οv

TABLE J.3.3 (2/2) ESTIMATE OF ECONOMIC COST FOR OKINAWA DRAINAGE PROJECT

lo.	Classification		2006		No.		Classification		2006		
	of Costs	1. C.	F.C.	Total			of Costs	L.C.	F.C.	Total	
	Construction Cost	1,075	1,985	3,060	1	Cov	astruction Cost	763	1,757	2,520	
	Land Acquisition	0	0	0	2		nd Acquisition	0	0	0	
3	Administration	153	0	153	3	Ađ.	ministration	135	0	135	
4	Engineering Services	61	245	306	4	Eog	gineering Services	54	245	299	
	Physical Contingency	193	335	528	5		ysical Contingency	143	300	443	
	Sub-total	1,482	2,565	4,047	_		b-total	1,096	2,302	3,397	
	price Escalation	828	810	1,708			ee Escalation	0	0	Q	
	Grand Total	2,380	3,375	5,755	OM Cost 848	Gra	and Total	1,096	2,302	3,397	OM C 435
7					7	,					
No.	Classification		2007		N		Classification		2007		
	of Costs	I.C.	F.C.	Total			of Costs	I.C.	F.C.	Total	
	Construction Cost	1,186	2,191	3,377	1		astruction Cost	842	1,939	2,781	
	Land Acquisition	0	0	0	2		no Acquisition	0	0		
	Administration	169	0	169	3		ministration	150	0	350	
	Engineering Services	68	270	338	4		gincering Services	60	270	330	
5	Physical Contingency	213	369	583	3		ysical Contingency	158	331	489	
	Sub-total	1,636	2,830	4,467			b-total	1,210	2,510	3,750	
Ð	price Escalation Grand Total	1,175 2,811	1,043 3,873	2,218 6,685	OM Cost		ce Escalation and Total	0 1,210	0 2,540	0 3,750	OM C
					960		· · · · · · · · · · · · · · · · · · ·				460
8	Classification	·	2029		-8		Charife-el		3000		
No.	Classification of Costs	LC.	2008 F.C.	Total	Ŋ	υ.	Classification of Costs	L.C.	2008 F.C.	Total	
i	Construction Cost	1,075	1,985	3,060		l Co	onstruction Cost	763	1,757	2,520	
_	Land Acquisition	0	0	3,000			nstruction Cost and Acquisition	103	3,737	2,320	
3	Administration	153	ŏ	153			iministration	135	ŏ	133	
4	Engineering Services	6)	245	306	_		gineering Services	54	245	299	
	Physical Contingency	193	335	528			sysical Contingency	143	300	443	
•	Sub-total	1,482	2,565	4,047	•		ib-total	1,096	2,302	3,397	
6	price Escalation	1,243	1,086	2,329			ice Escelation	0,020	0	0	
-	Grand Total	2,725	3,651		OM Cost 1,090		and Total	1,096	2,302		OM C 488
9											. 10
						9					
No		LC	2009 F.C	Total		9 (o.	Classification of Costs	1. C	2009 F.C.	Total	•
	Classification of Costs	L.C.	2009 F.C.	Total			Classification of Costs	1C.	2009 F.C.	Total	•
		L.C.	F.C.		<u> </u>	lo.		1C.		Total 2,433	•
	of Costs			Total 2,955 0	<u> </u>	(o. 1 Ca	of Costs		F.C.		
No	of Costs Construction Cost	1,038	F.C. 1,917	2,955	<u> </u>	io. 1 Cc 2 Ls	of Costs	137	F.C. 1,696	2,433	
No.	of Costs Construction Cost Land Acquisition	1,038	F.C. 1,917 0	2,955 0	<u> </u>	1 Co 2 La 3 Ac	of Costs onstruction Cost and Acquisition	737	F.C. 1,696 0	2,433 0	
No.	of Costs Construction Cost Land Acquisition Administration	1,038 Q 148	F.C. 1,917 0 0	2,955 0 148	_ N	1 Cc 2 La 3 Ac 4 Er	of Costs onstruction Cost and Acquisition oministration	737 0 131	F.C. 1,696 0	2,433 0 131	
No. 1 2 3 4	of Costs Construction Cost Land Acquisition Administration Engineering Services	1,038 0 148 59	F.C. 1,917 0 0 236	2,955 0 148 295	_ N	1 Cc 2 La 3 Ac 4 Er 5 Ft	of Costs onstruction Cost and Acquisition dministration ngineering Services	737 0 131 52	F.C. 1,696 0 0 236	2,433 0 131 288	
No. 1 2 3 4 5	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency	1,038 Q 148 59 187	F.C. 1,917 0 0 236 323	2,955 0 148 295 510	N —	1 Cc 2 La 3 Ac 4 Er 5 Pt	of Costs onstruction Cost and Acquisition dministration ngineering Services hysical Contingency	737 0 131 52 138	F.C. 1,696 0 0 236 290	2,433 0 131 288 428	
No. 1 2 3 4 5	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total	1,038 0 148 59 187 1,432	F.C. 1,917 0 0 236 323 2,476	2,955 0 148 295 510 3,908 2,574	OM Cost	1 Cc 2 La 3 Ac 4 Er 5 Pt 8c 6 pr	of Costs construction Cost and Acquisition diministration agineering Services systeal Contingency ub-total	737 0 131 52 138 1,058	F.C. 1,696 0 0 236 290 2,222	2,433 0 131 288 428 3,281	ом о
No. 1 2 3 4 5 6	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	1,038 0 148 59 187 1,432	F.C. 1,917 0 0 236 323 2,476 1,189	2,955 0 148 295 510 3,908 2,574	OM Cost 1,228	I Co 2 La 3 Ac 4 Er 5 Pt Sc 6 pc G	of Costs onstruction Cost and Acquisition diministration ngineering Services systeal Contingency ub-total rice Escalation	737 0 131 52 138 1,058	1,696 0 0 236 290 2,222	2,433 0 131 288 428 3,281	
No. 1 2 3 4 5	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	1,038 0 148 59 187 1,432	F.C. 1,917 0 0 236 323 2,476 1,189	2,955 0 148 295 510 3,908 2,574	OM Cost 1,228	1 Cc 2 La 3 Ac 4 Er 5 Pt 8c 6 pr	of Costs onstruction Cost and Acquisition diministration ngineering Services systeal Contingency ub-total rice Escalation	737 0 131 52 138 1,058	1,696 0 0 236 290 2,222	2,433 0 131 288 428 3,281	ом о
No 1 2 3 4 5 6	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	1,038 0 148 59 187 1,432	F.C. 1,917 0 0 236 323 2,476 1,189 3,665	2,955 0 148 295 510 3,908 2,574	OM Cost 1,228	1 Co 2 La 3 Ac 4 Er 5 Pt Sc 6 pr Gc	of Costs construction Cost and Acquisition diministration agineering Services aysical Contingency ub-total ice Escalation rand Total	737 0 131 52 138 1,058	F.C. 1,696 0 0 236 290 2,222 0 2,222	2,433 0 131 288 428 3,281	ом о
No 1 2 3 4 5 6	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs	1,038 0 148 59 187 1,432 1,385 2,817	F.C. 1,917 0 0 236 323 2,476 1,189 3,665	2,955 0 148 295 510 3,908 2,574 6,482	OM Cost 1,228	1 Cc 2 La 3 Ac 4 Er 5 Ph Sc 6 pc Gc	of Costs onstruction Cost and Acquisition dministration agineering Services aysical Contingency ab-total ice Escalation rand Total	737 0 131 52 138 1,058 0	F.C. 1,696 0 236 290 2,222 0 2,222	2,433 0 131 288 428 3,281 0 3,281	OM 0 51.
No. 1 2 3 4 5 6 6 No. 1 10 No. 1	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs	1,038 0 148 59 187 1,432 1,385 2,817	F.C. 1,917 0 236 323 2,476 1,189 3,665	2,955 0 148 295 510 3,908 2,574 6,482	OM Cost 1,228	1 Cc 2 La 3 Ac 4 Err 5 Ph St 6 pr Gr	of Costs onstruction Cost and Acquisition dministration ngineering Services aysical Contingency ab-total ince Escalation rand Total Classification of Costs	737 0 131 52 138 1,058 0 1,058	F.C. 1,696 0 236 290 2,222 0 2,222	2,433 0 131 288 428 3,281 0 3,281	OM 0 51.
No. 1 2 3 4 5 6 10 No. 1	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition	1,038 0 148 59 187 1,432 1,385 2,817	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C.	2,955 0 148 295 510 3,908 2,574 6,482 Total	OM Cost 1,228	1 Cc 2 La 3 Ac 4 Er 5 Ph Su 6 pr Gc	of Costs onstruction Cost and Acquisition diministration ngineering Services aysical Contingency ab-total rice Escalation rand Total Classification of Costs onstruction Cost	737 0 131 52 138 1,058 0 1,058	F.C. 1,696 0 0 236 290 2,222 0 2,222 2010 F.C. 1,576	2,433 0 131 288 428 3,281 0 3,281	OM 0 51.
No. 1 2 3 4 5 6 10 No. 1 2	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration	1,038 0 148 59 187 1,432 1,385 2,817 L.C.	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C.	2,955 0 148 295 510 3,908 2,574 6,482	OM Cost 1,228	1 Cc 2 La 3 Ac 4 Err 5 Ph Su 66 pr Gc	of Costs onstruction Cost and Acquisition diministration agineering Services hysical Contingency ab-total fice Escalation rand Total Classification of Costs onstruction Cost and Acquisition	737 0 131 52 138 1,058 0 1,058	F.C. 1,696 0 236 290 2,222 0 2,222 2010 F.C.	2,433 0 1311 288 428 3,281 0 3,281	OM 0 51.
No. 1 2 3 4 5 6 No. 1 2 3 4 4	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration	1,038 0 148 59 187 1,432 1,385 2,817 L.C.	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 E.C. 1,781 0	2,955 0 148 295 510 3,908 2,574 6,482 Total	OM Cost 1,228	1 Cc 2 La 3 Ac 4 Er Gc Gc Gc Gc La 3 Ac 4 Er Gc Gc La 3 Ac 4 Er Gc Gc La 3 Ac 4 Er La 4	of Costs construction Cost and Acquisition diministration regimeering Services assical Contingency ub-total rice Escalation rand Total Classification of Costs construction Cost and Acquisition diministration	737 0 131 52 138 1,058 0 1,058 L.C.	F.C. 1,696 0 236 290 2,222 0 2,222 2010 F.C. 1,576 0	2,433 0 1311 288 428 3,281 0 3,281 Total	OM 0 51.
No. 1 2 3 4 5 6 No. 1 2 3 4 4	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0	2,955 0 148 295 510 3,908 2,574 6,482 Total	OM Cost 1,228	1 Cc 2 La 3 Ac 4 Er G G G G G G G G G G G G G G G G G G	of Costs onstruction Cost and Acquisition dministration ngineering Services sysical Contingency ub-total ince Escalation rand Total Classification of Costs construction Cost and Acquisition dministration ngineering Services	737 0 131 52 138 1,058 0 1,058 L.C.	F.C. 1,696 0 0 236 290 2,222 0 2,222 1,576 0 0 51	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258	OM () _ \$1.
No. 1 2 3 4 5 5 5	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,277 1,411	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0 51 275 2,107 2,327	2,955 0 148 295 510 3,908 2,574 6,482 Total 2,742 (136 64 441 3,383 3,738	OM Cost 1,228	1 Cc 2 La 3 A 4 Er Cc 10 Cc 10 Cc 10 Cc 10 Cc 10 Cc 1 Cc 1	of Costs onstruction Cost and Acquisition diministration regimeering Services hasical Contingency ab-total rice Escalation rand Total Classification of Costs onstruction Cost and Acquisition diministration regimeering Services hasical Contingency ub-total rice Escalation	737 0 131 52 138 1,058 0 1,058 1,058 0 1,058	F.C. 1,696 0 236 290 2,222 0 2,222 2010 F.C. 1,576 0 0 51 244 1,871	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,660 2,800	OM (
No. 12 3 4 5 5 6 10 No. 1 2 3 4 4 5 5	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,277	F.C. 1,917 0 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0 51 275 2,107	2,955 0 148 295 510 3,908 2,574 6,482 Total 2,742 (136 64 441 3,383 3,738	OM Cost 1,228	1 Cc 2 La 3 A 4 Er Cc 10 Cc 10 Cc 10 Cc 10 Cc 10 Cc 1 Cc 1	of Costs onstruction Cost and Acquisition dministration ngineering Services hysical Contingency ub-total ince Escalation rand Total Classification of Costs onstruction Cost and Acquisition dministration angineering Services hysical Contingency ub-total	737 0 131 52 138 1,058 0 1,058 L.C. 682 0 120 122 936	F.C. 1,696 0 0 236 290 2,222 0 2,222 2010 F.C. 1,576 0 0 51 244 1,871	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,660 2,800	OM (
No 1 2 3 4 5 6 No 10 No 1 2 3 4 5 6	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,277 1,411	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0 51 275 2,107 2,327	2,955 0 148 295 510 3,908 2,574 6,482 Total 2,742 (136 64 441 3,383 3,738	OM Cost 1,228	10 Co 2 Lo 3 A 4 Er 5 Ph Sc 6	of Costs onstruction Cost and Acquisition diministration regimeering Services hasical Contingency ab-total rice Escalation rand Total Classification of Costs onstruction Cost and Acquisition diministration regimeering Services hasical Contingency ub-total rice Escalation	737 0 131 52 138 1,058 0 1,058 L.C. 682 0 120 122 122 936	F.C. 1,696 0 236 290 2,222 0 2,222 2010 F.C. 1,576 0 0 51 244 1,871	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,660 2,800	OM (
No. 1 2 3 4 5 5 5	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,277 1,411	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0 51 275 2,107 2,327	2,955 0 148 295 510 3,908 2,574 6,482 Total 2,742 (136 64 441 3,383 3,738	OM Cost 1,228	1 Cc 2 La 3 A 4 Er Cc 10 Cc 10 Cc 10 Cc 10 Cc 10 Cc 1 Cc 1	of Costs onstruction Cost and Acquisition diministration regimeering Services hasical Contingency ab-total rice Escalation rand Total Classification of Costs onstruction Cost and Acquisition diministration regimeering Services hasical Contingency ub-total rice Escalation	737 0 131 52 138 1,058 0 1,058 L.C. 682 0 120 122 122 936	F.C. 1,696 0 236 290 2,222 0 2,222 2010 F.C. 1,576 0 0 51 244 1,871	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,660 2,800	OM (
No. 123 4 5 6 6 6	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,277 1,411	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0 51 275 2,107 2,327 4,434	2,955 0 148 295 510 3,908 2,574 6,482 Total 2,742 (136 64 441 3,383 3,738	OM Cost 1,228	10 Co 2 Lo 3 A 4 Er 5 Ph Sc 6	of Costs onstruction Cost and Acquisition diministration ngineering Services hysical Contingency ub-total ince Escalation rand Total Classification of Costs onstruction Cost and Acquisition diministration angineering Services hysical Contingency ub-total ince Escalation irand Total	737 0 131 52 138 1,058 0 1,058 L.C. 682 0 120 122 122 936	E.C. 1,696 0 236 290 2,222 0 2,222 2010 E.C. 1,576 0 0 1,871	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,660 2,800	OM (
No. 123 4 5 6 6 6	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs	1,038 0 148 59 187 1,432 1,385 2,817 1C. 961 0 136 0 131 167 1,277 1,411 2,688	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0 51 275 2,107 2,327 4,434	2,955 0 148 295 510 3,908 2,574 6,482 Total 2,742 (136 64 44 44 3,383 3,735 7,12	OM Cost 1,228	10 Ccc 2 La 3 Acc 4 Err 5 Pt 5 Cc Gc	of Costs onstruction Cost and Acquisition of ministration ngineering Services hysical Contingency ub-total rice Escalation rand Total Classification of Costs and Acquisition diministration ngineering Services hysical Contingency ub-total rice Escalation riand Total Classification Classification	737 0 131 52 138 1,058 0 1,058 L.C. 682 0 120 122 122 122 936 0 936	F.C. 1,696 0 236 290 2,272 0 2,272 2010 F.C. 1,576 0 0 1,871 0 1,871	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,666 2,807	OM 0 53.
10 No 12 2 3 4 4 5 5 6 For	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification Grand Total	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,217 1,411 2,688	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0 51 275 2,107 2,327 4,431 Total F.C. 41,725	7,955 0 148 295 510 3,908 2,574 6,482 7otal 2,742 6 136 64 44 3,383 3,738 7,121	OM Cost 1,228	10. 1 Cc 2 La 3 Ac 4 Err 5 Pt 6 G G 10 10 10 10 10 10 10 10 10 10 10 10 10	of Costs onstruction Cost and Acquisition dministration ngineering Services sysical Contingency ub-total ince Escalation rand Total Classification of Costs onstruction Cost and Acquisition dministration angineering Services hysical Contingency ub-total rice Escalation iriand Total Classification of Costs	137 0 131 52 138 1,058 0 1,058 1.058 L.C. 682 0 120 12 12 122 936 0 936	F.C. 1,696 0 0 236 290 2,222 0 2,222 2010 F.C. 1,576 0 0 1,871 0 1,871 Total F.C.	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,666 2,807	OM (0 - 51)
10 No 10 10 10 10 10 10 10 10 10 10 10 10 10	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Costs Contingency Costs Contingency Costs Construction Cost	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,411 2,688	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0 51 275 2,107 2,327 4,434 Total F.C. 41,725	7,955 0 148 295 510 3,908 2,574 6,482 7otal 2,742 6 136 64 44 3,383 3,738 7,121	OM Cost 1,228	1 Cc 2 La 3 Ac 4 Err 5 Pt 6 pr G 10 Vo.	of Costs onstruction Cost and Acquisition diministration ngineering Services hysical Contingency ub-total ince Escalation rand Total Classification of Costs construction Cost and Acquisition diministration ngineering Services hysical Contingency ub-total rice Escalation iriand Total Classification of Costs	737 0 131 52 138 1,058 0 1,058 1,058 0 1,058 1,058 0 1,058	F.C. 1,696 0 0 236 290 2,222 0 2,222 2010 F.C. 1,576 0 0 51 244 1,871 0 1,871 Total F.C. 39,580	7,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,66 2,807 0 2,807	OM (C - 51)
No 1 2 3 4 5 6 Fot 2 3	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Frigineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Cost Administration	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,411 2,688 L.C. 23,178 0 3,395 1,358	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0 511 275 2,107 2,327 4,434 Total F.C. 41,725 0 0 5,432	2,955 0 148 295 510 3,908 2,574 6,482 Total 2,742 (136 64 441 3,383 3,735 7,121	OM Cost 1,228 OM Cost 1,377	1 Cc 2 La 3 Ac 4 Err 5 Ph G G G G G G G G G G G G G G G G G G	of Costs onstruction Cost and Acquisition diministration ngineering Services hysical Contingency ub-total rice Escalation rand Total Classification of Costs on Costs on Costs onstruction Cost and Acquisition diministration ngineering Services hysical Contingency ub-total rice Escalation rand Total Classification of Costs Construction Cost administration Costs of Costs	737 0 131 52 138 1,058 0 1,058 L.C. 682 0 120 122 936 0 936	F.C. 1,696 0 0 236 290 2,222 222 2212 2010 F.C. 1,576 0 0 1,871 Total F.C. 39,580 0	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,66 2,807 C 2,807	OM 0 51.
1 2 3 4 5 6 10 No	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total al Classification of Costs Construction Cost Administration Engineering Services Land Acquisition Physical Contingency Physical Contingency Construction Cost Administration Engineering Services Land Acquisition Physical Contingency	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,217 1,411 2,688 L.C. 23,178 0 3,395 1,358 4,190	P.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 51 275 2,107 2,327 4,434 Total F.C. 41,725 0 5,432 7,524	2,955 0 148 295 510 3,908 2,574 6,482 Total 2,742 (136 64 443 3,735 7,12 1	OM Cost 1,228	1 Cc 2 La 3 Ac 4 Er 5 Pt 6 G G 10 No.	of Costs onstruction Cost and Acquisition dministration ngineering Services sysical Contingency ub-total ince Escalation rand Total Classification of Costs construction Cost and Acquisition dministration angineering Services hysical Contingency ub-total rice Escalation iried Total Classification of Costs construction Cost administration iried Escalation of Costs	131 52 138 1,058 1,058 1,058 1,058 1,058 1,058 1,058 1,058 0 1,058	F.C. 1,696 0 0 236 290 2,222 0 2,222 2010 F.C. 1,576 0 0 1,871 0 1,871 Total F.C. 39,580 0 0 5,432 6,752	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,66 2,807 C 2,807 Total 56,036 (3,000 6,63 9,851	OM 0 53:
10 10 10 10 10 10 10 10 10 10 10 10 10 1	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services Land Acquisition Physical Contingency Sub-total Physical Contingency Sub-total	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,411 2,688 L.C. 23,178 0 3,395 1,358 4,190 32,121	F.C. 1,917 0 236 323 2,476 1,189 3,665 2010 F.C. 1,781 0 0 51 275 2,107 2,327 4,431 Total F.C. 41,725 0 0 5,432 7,524 57,681	70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal	OM Cost 1,228	10 Cc 2 La 3 Ac 4 Err 5 Pt 5 Cc 10 Cc 2 La 3 4 Er 5 Pt 5 Cc 6 Pt 6 Cc 2 La 3 4 Er 5 Pt 5 Cc 6 Pt 6 Cc 2 A 4 Er 5 Pt 5 Cc 6 Pt 6 Cc 2 A 4 Er 5 Pt 5 Cc 6 Pt 6 Cc 2 A 4 Er 5 Pt 5 Cc 6 Pt 6 Cc 2 A 4 Er 5 Cc 8 Cc 8 Er 5 Pt 6 Er 5 P	of Costs onstruction Cost and Acquisition diministration ngineering Services hysical Contingency ub-total ince Escalation rand Total Classification of Costs construction Cost and Acquisition diministration ngineering Services hysical Contingency ub-total rice Escalation iriand Total Classification of Costs construction Cost diministration nor Costs construction Cost diministration of Costs construction Cost diministration hysical Contingency ub-total contingency ub-total contingency ub-total contingency ub-total	737 0 131 52 138 1,058 0 1,058 1,058 0 1,058 1.C. 682 0 120 122 936 0 936 0 936	F.C. 1,696 0 0 236 290 2,222 2010 F.C. 1,576 0 0 1,871 Total F.C. 39,580 0 5,432 6,752 51,763	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,66 2,807 C 2,807 Total 56,036 6,036 6,635 9,851 75,522	OM (0 - 51)
10 10 10 10 10 10 10 10 10 10 10 10 10 1	of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total al Classification of Costs Construction Cost Administration Engineering Services Land Acquisition Physical Contingency Physical Contingency Construction Cost Administration Engineering Services Land Acquisition Physical Contingency	1,038 0 148 59 187 1,432 1,385 2,817 L.C. 961 0 136 13 167 1,217 1,411 2,688 L.C. 23,178 0 3,395 1,358 4,190	F.C. 1,917 0 0 236 323 2,476 1,189 3,665 2010 F.C. 3,781 0 0 5 51 275 2,107 2,327 4,431 Total F.C. 41,725 0 0 5,432 7,524 57,681 13,356	70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 70tal 67,900 6,900 6,900 11,741 89,800 26,43	OM Cost 1,228	1 Cc 2 La 3 Ac 4 Err 5 Pt 5 Cc G G G G G G G G G G G G G G G G G G	of Costs onstruction Cost and Acquisition dministration ngineering Services sysical Contingency ub-total ince Escalation rand Total Classification of Costs construction Cost and Acquisition dministration angineering Services hysical Contingency ub-total rice Escalation iried Total Classification of Costs construction Cost administration iried Escalation of Costs	131 52 138 1,058 1,058 1,058 1,058 1,058 1,058 1,058 1,058 0 1,058	F.C. 1,696 0 0 236 290 2,222 2010 F.C. 1,576 0 0 1,871 Total F.C. 39,580 0 5,432 6,752 51,763	2,433 0 1311 288 428 3,281 0 3,281 Total 2,258 0 120 63 3,66 2,807 C 2,807 Total 56,036 (3,000 6,63 9,851	OM (0 - 51)

TABLE J.3.4(1/2) ESTIMATE OF ECONOMIC COST FOR CHANE-PAILON PROJECT

l No.	Inancial Cost Classification		Joit : Bs. 1 2001	,000		Economic Cost Classification		Jnit : Bs. 1 2001	,000	
110.	of Costs	L.C.	F.C.	Total	Ne	of Costs	I.C.	F.C.	Total	
	01 0000	_ <u> </u>	1.0.	(total		Ot CASES			· · · · · ·	
1	Construction Cost	0	0	0	1	Construction Cost	0	0	0	
2	Land Acquisition	0	0	0	ž		0	0	0	
3	Administration	0	0	0	3		0	0	0	
4	Engineering Services	94	374	468	4	Engineering Services	83	374	457	
5	Physical Contingency	14	56	70	5	Physical Contingency	12	56	69	
	Sub-total	108	430	538		Sub-total	96	430	526	
6	price Escalation	16	35	51		price Escalation	0	0	0	
	Grand Total	124	465	589	OM Cost	Grand Total	96	430	526	OM Co.
2					2	:				
No.	Classification		2002		N	o. Classification		2002		
	of Costs	L.C.	F.C.	Total		of Costs	L.C.	F.C.	Total	
1	Construction Cost	9,460	18,619	28,079	I	Construction Cost	6,717	15,477	23,194	
2	Land Acquisition	0	0	. 0	2	•	0	0	0	
3	Administration	1,404	0	1,404	3	•	1,242	0	1,242	
4	Engineering Services	917	3,665	4,582	4			3,665	4.477	
5	Physical Contingency	1,767	3,343	5,110	5	Physical Contingency		3,021	4,337	
,	Sub-total	13,548	25,627	39,175		Sub-total	10,086	23,163	33,249	
0	price Escalation	3,049	3,200	6,249		price Escalation	10.006	0	0	0140
	Grand Total	16,597	28,827	45,424	OM Cost	Grand Total	10,086	23,163	33,249	OM Co
3					_3	.				_
No.	. Classification		2003		N			2003		
	of Costs	L.C.	F.C.	Total		of Costs	L.C.	F.C.	Total	
ı	Construction Cost	29,788	51,026	80,814	1	Construction Cost	21,149	45,156	66,305	
2	Land Acquisition	0	0	0	7	Land Acquisition	0	0	0	
3	Administration	4,041	. 0	4,041	1		3,576	0	3,576	
4	Engineering Services	1,584	6,340	7,924	4	 Engineering Services 	1,402	6,340	7,742	
5	Physical Contingency	5,312	8,605	13,917	:	Physical Contingency	3,919	7,724	11,643	
	Sub-total	40,725	65,971	106,696		Sub-total	30,046	59,220	89,267	
6	price Escalation	12,657	11,205	23,862	(price Escalation	0	0	0	
	Grand Total	53,382	77,176	130,558	OM Cost 368	Grand Total	30,046	59,220	89,267	OM Co 232
4						[-
No	Classification		2004		N	o. Classification		2004		•
	of Costs	LC.	F.C.	Total		of Costs	L.C.	F.C.	Total	
ŧ	Construction Cost	25,064	41,360	66,424	1	Construction Cost	17,795	36,692	54,397	
2	Land Acquisition	0	0	0		Land Acquisition	0	0	0	
3	Administration	3,322	0	3,322	3	Administration	2,940	0	2,940	
4	Engineering Services	1,329	5,314	6,643		Engineering Services	-	5,314	6.490	
5	Physical Contingency	4,457	7,001	11,458	:	Physical Contingency		6,287	9,574	
	Sub-total	34,172	53,675	87,847		Sub-total	25,198	48,203	73,401	
6	price Escalation	13,755	11,628	25,383	(price Escalation	0	0	0	
	Grand Total	47,927	65,303	113,230	OM Cost 1,527	Grand Total	25,198	48,203	73,401	OM C6 895
5					_	}				-
	Classification		2005		N			2005		•
Νo	of Costs	L.C.	F.C.	Total	_	of Costs	L.C.	F.C.	Total	-
No			35,844	57,554		Construction Cost	15,414	31,720	47,134	
1	Construction Cost	21,710				2 Land Acquisition	0	0	0	
1 2	Land Acquisition	0	0	0						
1 2 3	Land Acquisition Administration	0 2,878	0	2,878		3 Administration	2,517	0	2,547	
1 2 3 4	Land Acquisition Administration Engineering Services	0 2,878 1,234	0 0 4,936	2,878 6,170	;	Engineering Services	1,092	4,936	6,028	
1 2 3 4	Land Acquisition Administration Engineering Services Physical Contingency	0 2,878 1,234 3,873	0 0 4,936 6,117	2,878 6,170 9,990	;	Fingineering Services Physical Contingency	1,092 2,858	4,936 5,498	6,028 8,356	
1 2 3 4 5	Land Acquisition Administration Engineering Services Physical Contingency Sub-total	2,878 1,234 3,873 29,695	0 0 4,936 6,117 46,897	2,878 6,170 9,990 76,592	:	Engineering ServicesPhysical ContingencySub-total	1,092 2,858 21,911	4,936 5,498 42,155	6,028 8,356 64,066	
2 3 4 5	Land Acquisition Administration Engineering Services Physical Contingency	0 2,878 1,234 3,873	0 0 4,936 6,117	2,878 6,170 9,990 76,592 27,313	:	Fingineering Services Physical Contingency	1,092 2,858	4,936 5,498	6,028 8,356	

TABLE J.3.4(2/2) ESTIMATE OF ECONOMIC COST FOR CHANE-PAILON PROJECT

(l) F 6	inancial Cost					(2) P	conomic Cost				
Vo.	Classification		2006			No.	Classification		2006		
	of Costs	L.C.	F.C.	Total			of Costs	I.C.	F.C.	Total	
ı	Construction Cost	21,706	37,533	59,239		1	Construction Cost	15,411	33,215	48,626	
2	Land Acquisition	0	0	0		2	Land Acquisition	0	0	0	
	Administration	2,962	0	2,962		3	Administration	2,621	0	2,621	
	Engineering Services	1,197	4,788	5,985			Engineering Services	1,059	4,788	5,817	
	Physical Contingency	3,880	6,348	10,228		5	Physical Contingency	2,864	5,700	8,564	
	Sub-total price Escalation	29,745 18,018	48,669 15,376	78,414 33,394			Sub-total price Escalation	21,956 0	43,704	65,659 0	
	Grand Total	47,763	64,015	111,808	OM Cost 3,742	Ū	Grand Total	21,956	43,704		OM Cos 1,910
7					2,172	7			· - · · · · · ·		1,510
No.	Classification		2007			No.	Classification		2007		
	of Costs	I.C.	F.C.	Total			of Costs	I.C.	F.C.	Total	
	Construction Cost	27,140	47,193	74,333			Construction Cost	19,269	41,764	61,033	
	Land Acquisition	2 212	0	0			Land Acquisition	0	0	0	
	Administration Engineering Services	3,717 1,488	5,917	3,717 7,435			Administration	3,289	0	3 289	
	Physical Contingency	4,852	7,971	12,823			Engineering Services Physical Contingency	1,317 3,581	5,947 7,157	7,264 10,738	
_	Sub-total	37,197	61,111	98,308		•	Sub-total	27,457	54,867	82,324	
6	price Escalation	26,714	22,524	49,238		6	price Escalation	0	0	02,520	
	Grand Total	63,911	83,635	147,546	OM Cost 5,022		Grand Total	27,457	54,867	82,324	OM Cos 2,397
8						8					
No.	Classification		2008	1		No.	Classification		2008		
	of Costs	L.C.	F.C.	Total			of Costs	LC.	F.C.	Total	
	Construction Cost	22,541	39,151	61,692		ì	Construction Cost	16,004	34,647	50,651	
2	Land Acquisition	0	0	0		2	Land Acquisition	0	0	. 0	
3	Administration	3,085	6 2 2 2 2	3,085		3	Administration	2,730	0	2,730	
4 5	Engineering Services Physical Contingency	1,318	5,270	6,588		4	Engineering Services	1,166	5,270	6,435	
,	Sub-total	4,042 30,986	6,663 51,084	10,705 82,070		,	Physical Contingency Sub-total	2,985	5,988 45,904	8,973 68,790	
6	price Escalation	25,980	21,626	47,606		6	price Escalation	22,886 0	42,504	06,150	
	Grand Total	56,966	72,710		OM Cost 6,741	•	Grand Total	22,886	45,904	_	OM Co 3,007
9 No.	Classification		3000			9	00 00				. 5,000
NO.	of Costs	J.C.	2009 F.C.	Total		No.	Classification of Costs	LC.	- 2009 F.C.	Total	-
											•
2	Construction Cost Land Acquisition	28,656 0	48,239 Q	76,895 0		1 2	Construction Cost Land Acquisition	20,346	42,689 0	63,035 0	
3	Administration	3,845	ō	3,845		3	Administration	3,403	ŏ	3,403	
4	Engineering Services	1,100	4,401	5,501		4	Engineering Services	973	4,401	5,374	
5	Physical Contingency	5,040	7,896	12,936		5	Physical Contingency	3,708	7,064	10,772	
_	Sub-total	38,611	60,536	99,177			Sub-total	28,430	54,154	82,584	
6	price Escalation Grand Total	37,371 76,012	29,073 89,609	66,444 165,621	OM Cost	6	price Escalation Grand Total	0 28,430	0 54,154	0 82,584	OM Co
10					8,430	10		~ 			3,513
No	Classification		2010		-	No.	Classification		2010		•
	of Costs	L.C.	F.C.	Total			of Costs	L.C.	F.C.	Total	-
1	Construction Cost	8,818	14,381	23,199	•	1	Construction Cost	6,261	12,727	18,987	
	Land Acquisition	0	0	0		2	Land Acquisition	0	0	0	
3		1,158	0	1,158		3	Administration	1,025	0	1,025	
1	Engineering Services	303	1,224	1,527		4	Engineering Services	268	1,224	1,492	
5	Physical Contingency Sub-total	3,542 11,821	2,341 17,946	3,883 29,767		5	Physical Contingency Substated	1,133	2,093	3,226	
6	price Escalation	13,062	19,826	32,888		6	Sub-total price Escalation	8,687 0	16,043 0	24,730 0	
·	Grand Total	24,883	37,772		OM Cost 10,639	v	Grand Total	8,687	16,043		OM Co 4,144
Tota	1				•	Tota				·	
	Classification		Total		- -		Classification		Total		
	of Costs	I.C.	F.C.	Total	-		of Costs	L.C.	F.C.	Total	-
1		-	333,346	528,229		1	Construction Cost	138,367	294,996	433,363	
2	Administration	0	0	0		2	Administration	0	0	0	
	EDDICAGOOO SARSONA	26,412	0	26,412		3	Engineering Services	23,373	0	23,373	
3	Engineering Services		13360	E 3 0 2 2							
3 4	Land Acquisition	10,564	42,259 56 3.11	52,823		4	Land Acquisition	9,349	42,259	51,608	
3	Land Acquisition Physical Contingency	10,564 34,779	56,341	91,120			Physical Contingency	25,663	50,588	76,252	
3 4 6	Land Acquisition Physical Contingency Sub-total	10,564 34,779 266,638	56,341 431,946	91,120 698,584		6	Physical Contingency Sub-total	25,663 196,752	50,588 387,844	76,252 584,596	
3 4 6	Land Acquisition Physical Contingency	10,564 34,779 266,638 165,492	56,341 431,946 146,936	91,120 698,584 312,428			Physical Contingency Sub-total	25,663 196,752 0	50,588	76,252 584,596	

TABLE J.3.5(1/2) ESTIMATE OF ECONOMIC COST FOR SAN JUAN PROJECT

_!	inancial Cost		Joit ; Bs. 1	,000		(2)1	conomic Cost		Unit : Bs. 1	,000	
No.	Classification		2001	- -		No	Classification		2001		
	of Costs	L.C.	F.C.	Tota!			of Costs	LC.	F.C.	Total	
1	Construction Cost	702	708	1,410		1	Construction Cost	498	627	1,125	
2	Land Acquisition	0	0	0		2	Land Acquisition	0	0	0	
3	Administration	0	0	٥		3	Administration	0	0	0	
4	Engineering Services	22	88	110		4	Engineering Services	19	88	107	
5	Physical Contingency	109	119	228		5	Physical Contingency	78	107	185	
	Sub-total	833	915	1,748			Sub-total	596	822	1,417	
6	price Escalation Grand Total	120 953	75 990	195 1,943	OM Cost	6	price Escalation Grand Total	0 596	822 0	0 1,417	OM Cost
					0						0
No.	Classification		2002	· 		No.	Classification		2002		
	of Costs	L.C.	F.C.	Total			of Costs	LC.	F.C.	Total	
ı	Construction Cost	3,287	3,312	6,599			Construction Cost	2,334	2,931	5,265	
ż	Land Acquisition	0,20,	3,312	0,577		2	Land Acquisition	0	0	5,203	
ĩ	Administration	330	ŏ	330		3	Administration	292	ŏ	292	
4	Engineering Services	132	528	660		4	Engineering Services	117	528	645	
Š	Physical Contingency	562	576	1,138		Š	Physical Contingency	411	519	930	
	Sub-total	4,313	4,416	8,727			Sub-total	3,154	3,978	7,132	
6	price Escalation	970	551	1,521		6	price Escalation	0	0	0	
	Grand Total	5,281	4,961	10,248	OM Cost 17		Grand Total	3,154	3,978	7,132	OM Cos 11
3					'						
No.	Classification		2003			No.	Classification		2003		
	of Costs	L.C.	F.C.	Total			of Costs	L.C.	F.C.	Total	
1	Construction Cost	2,762	3,455	6,217		1	Construction Cost	1,961	3,058	5,019	
2	Land Acquisition	0	0	0		2	Land Acquisition	0	0	0	
3	Administration	220	Ó	220		3	Administration	195	ō	195	
4	Engineering Services	116	466	582		4	Engineering Services	103	466	569	
5	Physical Contingency	465	588	1,053		5	Physical Contingency	339	529	867	
	Sub-total	3,563	4,509	8,072			Sub-total	2,597	4,052	6,649	
6	price Escalation	1,103	766	1,874		6	price Escalation	0	0	0	
	Grand Total	4,671	5,275	9,946	OM Cost 105		Grand Total	2,597	4,052	6,649	OM Cos
4						4					
No.			2004			No.	Classification		2004		
	of Costs		F.C.	71-4-8					F.C.	Total	
		L.C.	r.c.	Total			of Costs	L.C.	1.0.		•
1	Construction Cost	1,955	2,941	4,896	•	1	of Costs Construction Cost	1,388	2,603	3,991	•
2	Land Acquisition	1,955	2,941 0	4,896 0	•	1 2	Construction Cost Land Acquisition	1,388 0		3,991 0	•
2	Land Acquisition Administration	1,955 0 256	2,941 0 0	4,896 0 256		_	Construction Cost Land Acquisition Administration	1,388 0 227	2,603 0 0	3,991 0 227	•
3	Land Acquisition Administration Engineering Services	1,955 0 256 103	2,941 0 0 410	4,896 0 256 513		2 3 4	Construction Cost Land Acquisition Administration Engineering Services	1,388 0 227 91	2,603 0 0 410	3,991 0 227 501	•
3	Land Acquisition Administration Engineering Services Physical Contingency	1,955 0 256 103 347	2,941 0 0 410 503	4,896 0 256 513 850		2	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency	1,388 0 227 91 256	2,603 0 0 410 452	3,991 0 227 501 708	•
3 4 5	Land Acquisition Administration Engineering Services Physical Contingency Sub-total	1,955 0 256 103 347 2,661	2,941 0 0 410 503 3,854	4,896 0 256 513 850 6,515		2 3 4 5	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total	1,388 0 227 91 256 1,962	2,603 0 0 410 452 3,465	3,991 0 227 501 708 5,426	
3 4 5	Land Acquisition Administration Engineering Services Physical Contingency	1,955 0 256 103 347	2,941 0 0 410 503	4,896 0 256 513 850 6,515 1,907	OM Cost	2 3 4 5	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency	1,388 0 227 91 256	2,603 0 0 410 452	3,991 0 227 501 708 5,426	OM Cos
3 4 5	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation	1,955 0 256 103 347 2,661 1,072	2,941 0 0 410 503 3,854 835	4,896 0 256 513 850 6,515 1,907	OM Cost 198	2 3 4 5	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation	1,388 0 227 91 256 1,962 0	2,603 0 0 410 452 3,465	3,991 0 227 501 708 5,426	OM Cos 114
3 4 5	Land Acquisition Administration Engineering Services Physical Centingency Sub-total price Escalation Grand Total	1,955 0 256 103 347 2,661 1,072	2,941 0 0 410 503 3,854 835	4,896 0 256 513 850 6,515 1,907		3 4 5 6	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	1,388 0 227 91 256 1,962 0	2,603 0 0 410 452 3,465 0 3,465	3,991 0 227 501 708 5,426	
2 3 4 5 6	Land Acquisition Administration Engineering Services Physical Centingency Sub-total price Escalation Grand Total	1,955 0 256 103 347 2,661 1,072	2,941 0 0 410 503 3,854 835 4,689	4,896 0 256 513 850 6,515 1,907		2 3 4 5	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	1,388 0 227 91 256 1,962 0	2,603 0 0 410 452 3,465	3,991 0 227 501 708 5,426	
2 3 4 5 6	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification	1,955 0 256 103 347 2,661 1,072 3,733	2,941 0 0 410 503 3,854 835 4,689	4,896 0 256 513 850 6,515 1,907 8,422		3 4 5 6	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification	1,388 0 227 91 256 1,962 0 1,962	2,603 0 0 410 452 3,465 0 3,465	3,991 0 227 501 708 5,426 0 5,426	
2 3 4 5 6 No	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs	1,955 0 256 103 347 2,661 1,072 3,733	2,941 0 0 410 503 3,854 835 4,689	4,896 0 256 513 850 6,515 1,907 8,422		2 3 4 5 6	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs	1,388 0 227 91 256 1,962 0 1,962	2,603 0 410 452 3,465 0 3,465 E.C.	3,991 0 227 501 708 5,426 0 5,426	
2 3 4 5 6 No	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition	1,955 0 256 103 347 2,661 1,072 3,733	2,941 0 0 410 503 3,854 835 4,689	4,896 0 256 513 850 6,515 1,907 8,422 Total		2 3 4 5 6 	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost	1,388 0 227 91 256 1,962 0 1,962	2,603 0 410 452 3,465 0 3,465 E.C.	3,991 0 227 501 708 5,426 0 5,426	
2 3 4 5 6 No	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services	1,955 0 256 103 347 2,661 1,072 3,733 L.C. 2,623 0 326 131	2,941 0 0 410 503 3,854 835 4,689 2005 F.C. 3,895 0	4,896 0 256 513 850 6,515 1,907 8,422 Total 6,518		2 3 4 5 6 	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition	1,388 0 227 91 256 1,962 0 1,962	2,603 0 0 410 452 3,465 0 3,465 2005 F.C. 3,447 0	3,991 0 227 501 708 5,426 0 5,426 Total	
2 3 4 5 6 	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency	1,955 0 256 103 347 2,661 1,072 3,733 L.C. 2,623 0 326 131 462	2,941 0 0 410 503 3,854 835 4,689 2005 F.C. 3,895 0 0 521 662	4,896 0 256 513 850 6,515 1,907 8,422 Total 6,518 0		2 3 4 5 6 No.	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration	1,388 0 227 91 256 1,962 0 1,962 L.C.	2,603 0 410 452 3,465 0 3,465 	3,991 0 227 501 708 5,426 0 5,426 Total 5,309 0 288	
2 3 4 5 6 —————————————————————————————————	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total	1,955 0 256 103 347 2,661 1,072 3,733 L.C. 2,623 0 326 131 462 3,542	2,941 0 0 410 503 3,854 835 4,689 2005 F.C. 3,895 0 0 511 662 5,078	4,896 0 256 513 850 6,515 1,907 8,422 Total 6,518 0 326 652 1,124		2 3 4 5 6 No.	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Administration Engineering Services Physical Contingency Sub-total	1,388 0 227 91 256 1,962 0 1,962 1,862 0 288 116 340 2,607	2,603 0 410 452 3,465 0 3,465 F.C. 3,447 0 521	3,991 0 227 501 708 5,426 0 5,426 Total 5,309 0 288 637 935 7,170	114
2 3 4 5 6 No	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency	1,955 0 256 103 347 2,661 1,072 3,733 L.C. 2,623 0 326 131 462	2,941 0 0 410 503 3,854 835 4,689 2005 F.C. 3,895 0 0 521 662	4,896 0 256 513 850 6,515 1,907 8,422 Total 6,518 0 326 652 1,124 8,620 3,122		2 3 4 5 6 No.	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency	1,388 0 227 91 256 1,962 0 1,962 1,862 0 288 116 340	2,603 0 410 452 3,465 0 3,465 	3,991 0 227 501 708 5,426 0 5,426 Total 5,309 0 288 637 935 7,170	114

TABLE J.3.5(2/2) ESTIMATE OF ECONOMIC COST FOR SAN JUAN PROJECT

n 6	inancial Cost				•	ł) F 6	Conomic Cost				
Ģ.	Classification of Costs	1.C.	2006 F.C.	Total	N	lo.	Classification of Costs	i.c.	2006 E.C.	Total	
					•		,,, <u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>				
-	Construction Cost	4,090	5,856	9,946		•	Construction Cost	2,904	5,182	8,086	
	Land Acquisition	0	0	0			Land Acquisition	0	0	0	
	Administration	317	0	317		3	Administration	281	222	281	
	Engineering Services Physical Continuous	184 689	732 988	916		4	Engineering Services	163	732	895 1,389	
	Physical Contingency Sub-total	5,280	7,576	1,677 12,856		5	Physical Contingency Sub-total	502 3,849	887 6,801	10,651	
	price Escalation	3,198	2,394	5,592			price Escalation	0	0.001		
	Grand Total		9,970		OM Cost	U	Grand Total	3,849	6,801	10.651	OM Co
	enand total	8,478	9,970	18,440	410		Grand Total	3,049	0,601	10,031	207
7						7				_	
o.	Classification of Costs	1.C.	2007 F.C.	Total	7	Vo.	Classification of Costs	L.C.	2007 F.C.	Total	
_	01 (03.5			10.00	-		(4 00313			10141	
1	Construction Cost	6,978	9,871	16,849		1	Construction Cost	4,954	8,735	13,690	
2	Land Acquisition	0	0	0		2	Land Acquisition	. 0	0	0	
	Administration	802	ō	802		3	Administration	710	Ö	710	
	Engineering Services	334	1,334	1,668		4	Engineering Services	296	1,334	1,630	
	Physical Contingency	1,217	1.681	2,898		5	Physical Contingency	894	1,510	2,401	
	Sub-total	9,331	12,886	22,217			Sub-total	6,854	11,580	18,433	
6	price Escalation	6,703	4,750	11,453		6	price Escalation	0	0	0	
	Grand Total	16,034	17,636		OM Cost 610		Grand Total	6,854	11,580	18,433	OM Co 288
_						_	, , ,		, -		208
8 Io.	Classification		2008			8 10.	Classification		2008		
	of Costs	LC.	F.C.	Total	•		of Costs	L.C.	F.C.	Total	
ι	Construction Cost	6,944	9,971	16,915		i	Construction Cost	4,930	8,824	13,754	
2	Land Acquisition	0	0	0		2	Land Acquisition	0	0	. 0	
3	Administration	833	0	833		3	Administration	737	0	737	
1	Engineering Services	333	1,335	1,668		4	Engineering Services	295	1,335	1,630	
5	Physical Contingency	1,217	1,696	2,912			Physical Contingency	894	1,524	2,418	
	Sub-total	9,327	13,002	22,328			Sub-total	6,856	11,683	18,539	
6	price Escalation	7,820	5,503	13,323		6	price Escalation	0	0	0	
	Grand Total	17,147	18,505	35,651	OM Cost 962		Grand Total	6,856	11,683	18,539	OM Co 425
_					- YOZ						. 423
9 No.	Classification		2009		ī	9 No.	Classification		2009		•
	of Costs	L.C.	F.C.	Total	_		of Costs	LC.	F.C.	Total	•
	Construction Cost	4,335	6,526	10,861		1	Construction Cost	3,078	5,775	8,853	
	Land Acquisition	0	0	0		2	Land Acquisition	0	0	0	
3	Administration	724	0	724		3	Administration	.641	0	641	
4	Engineering Services	233	932	1,165		4	Engineering Services	206	932	1,138	
5	Physical Contingency	794	1,119	1,913		5	Physical Contingency	589	1,006	1,595	
_	Sub-total	6,086	8,577	14,663		_	Sub-total	4,513	7,713	12,227	
6	,	5,886	4,119	10,005	OH C:->	6	price Escalation	4513	2212	12.22	
	Grand Total	13,972	12,696	24,668	OM Cost 1,362		Grand Total	4,513	7,713	12,227	OM C 562
10			,		•	10					-
No			2010			No			2010		-
	of Costs	L.C.	F.C.	Total	· ·		of Costs	L.C.	F.C.	Total	-
ı	Construction Cost	391	721	1,112		1	Construction Cost	278	638	916	;
2	Land Acquisition	0	0	C		2	Land Acquisition	0	0	0)
3	Administration	258	0	258		3	Administration	228	0	228	:
4	Engineering Services	39	160	199		4	Engineering Services	35	160	195	i
5	Physical Contingency	103	132	235		5	Physical Contingency	81	120	201	İ
	Sub-total	791	1,013	1,804			Sub-total	622	918	1,539	•
6	price Escalation	874	1,117	1,991		6	•	0	0	Ċ	
	Grand Total	1,665	2,130	3,795	OM Cost 1,688		Grand Total	622	918	1,539	OM C 651
Tot	al					Tot	al				
	Classification		Total	77 . 4	• . •		Classification		Total		- -
	of Costs	L.C.	F.C.	Total			of Costs	J.C.	F.C.	Total	-
1		34,067		81,32 .		j	+	24,188	41,819	66,007	
2		4.066		1.06		2		3 509	0	3 500	
	Engineering Services	4,066		4,064		3	- 0	3,598	6 506	3,598	
	Land Acquisition	1,627		8,13.		4	•	1,440	6,506	7,940	
6	Physical Contingency	5,964		14.02		6	, , ,	4,384	7,249	11,633	
-	Sub-total	45,724				4	Sub-total	33,609	55,574	89,18	
- 7	•	29,525		50,98		7	•	33.600	0	90.18	
	Grand Total	75,249	83,284	136,35	1,712		Grand Total	33,609	55,574	67,18	OM 0 660

TABLE J.3.6(1/2) ESTIMATE OF ECONOMIC COST FOR ANTOFAGASTA PROJECT

2 Land Acquisition 0 0 0 0 3 Administration 0 0 0 4 1 Ingineering Services 38 151 189 4 Engineering Services 38 151 189 4 Engineering Services 31 151 189 5 Physical Centingency 120 201 32 Sub-total 1,285 1,719 3,005 Sub-total 2,285 1,719 3,005 Grand Total 1,472 1,859 3,331 DM Cost Grand Total 2,285 1,719 3,005 Grand Total 2,285 1,719 3,005 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,46 Grand Total 2,002 1,541 2,548 1,541 2,54 2,541 2	(f) F	inancial Cost	,	Ta '			(2) !	Feonomic Cost				
Content		61			,000		!_				.000	
1 Construction Cost 1,080 1,344 2,424 1 Construction Cost 7,67 1,180 1,95 2 Land Acquisition 0 0 0 0 3 Administration 0 0 0 4 Ingineering Services 38 151 189 4 Engineering Services 11 151 18 5 Physical Contingency 168 224 392 5 Physical Contingency 170 201 18 5 Sub-total 1,285 1,179 3,005 Sub-total 920 1,511 2,46 6 Grand Total 1,472 1,859 3,331 OM Cost 0 Grand Total 1,472 1,859 1,134 1 Construction Cost 1,50 Cost C FC Total Construction Cost 1,50 Cost C FC Total Grand Total 1,472 1,474 1 Construction Cost 3,589 5,588 9,15 Cost 1,444 C Total Grand Total 1,472 1,474 1 Construction Cost 3,589 5,588 9,15 C 1,444 C 1,44	NO.						No.					
2 Land Acquisition		of Costs	L.C.	F.C.	Total			of Costs	I.C.	F.C.	Total	
2 I and Acquisition 0 0 0 2 Land Acquisition 0 0 4 I Ingineering Services 38 151 189 4 Engineering Services 31 151 189 5 Physical Centingnessy 166 224 392 5 Physical Centingnessy 120 201 32 Sub-total 1,285 1,719 3,005 Sub-total 200 1,511 246 Grand Total 1,472 1,859 3,331 OMC Cet Grand Total 920 1,511 2,46 20 2 2 2 2 2 2 1 2,002 0 1,511 2,002 1,511 2,46 2,002 1,511 2,46 2,002 1,511 2,46 2,002 1,511 2,46 2,002 1,511 2,46 2,002 1,511 2,46 2,002 1,511 2,46 2,002 1,511 2,46 2,41 2,41 2,41 2,41 2,41 2,41 2,41 2,41 <td>l</td> <td>Construction Cost</td> <td>1,080</td> <td>1,344</td> <td>2,424</td> <td></td> <td>ı</td> <td>Construction Cost</td> <td>767</td> <td>1.189</td> <td>1,956</td> <td></td>	l	Construction Cost	1,080	1,344	2,424		ı	Construction Cost	767	1.189	1,956	
3. Administration	2	Land Acquisition	0	0			2	Land Acquisition			0	
1 Projecting Services 38 151 189 4 Engineering Services 31 151 185	3	Administration	0	0	0						0	
5 Physical Contingency 168 214 392 5 Physical Contingency 120 201 23 201 202 201 201 202 201 201 202 201 201 202 201 201 202 201 201 202 201 201 202 201 201 202 201 201 202 201 201 202 201 201 202 201 201 202 201 202 201 202	4	Engineering Services	38	151	189		4		-	-	185	
Sub-total 1,285 1,719 3,005 5,061-total 0 0 0 0 0 0 0 0 0	5	Physical Contingency	168	224						-	321	
6 price Excelation			1,286	1.719			•				2.462	
Crand Total	6		-	-	•		6			-	2,402	
2							Ū			_	_	OM Cost
Censtruction Cost	2						2			*** **** *		•
Construction Cost	No.						No.	Classification				
2 Land Acquisition		of Costs	L.C.	F.C.	Total			of Costs	L.C.	F.C.	Total	
2 Land Acquisition	1	Construction Cost	5,055	6,292	11.347		1	Construction Cost	3.589	5 568	9,157	
3 Administration			•				•			-	0	
4 Faginecring Services 227 908 1,135 4 Engineering Services 201 908 1,105 5 Physical Confingency 878 1,080 1,958 5 Physical Centingency 644 971 1,61 5 Optice Escalation 1,514 1,034 2,548 6 price Pscalation 0 0 0 6 price Escalation 1,514 1,034 2,548 6 price Pscalation 0				_	-						503	
5 Physical Centingency 378 1,080 1,938 5 Physical Centingency 644 971 1,61 Sub-total 6,228 8,280 15,008 Sub-total 4,936 7,418 12,38 6 price Escalation 1,514 1,034 2,518 6 price Escalation 0 0 3 No. Classification of Costs L.C. F.C. Total 290 3 No. Classification of Costs L.C. F.C. Total 1.C. F.C. Total 1 Construction Cost 3,679 4,921 8,600 1.C. Construction Cost 2,612 4,335 6,96 2 Land Acquisition 0 0 0 2.C. L.C. F.C. Total 4 Engineering Services 167 670 337 4.Engincering Services 148 670 337 4.Engincering Services 148 670 337 4.Engincering Services 148 670 48 1,472 5.Physical Centingency 346 1,54 1,21												
Sub-total 6.728 8.280 15.008 Sub-total 4.936 7.448 12.38 6 price Escalation 1.514 1.034 2.548 6 price Escalation 0 0 0 Grand Total 8.242 9.314 17.556 OM Cost 2.99					-						-	
6 price Escalation 1,514 1,031 2,518 6 price Escalation 0	•				-		,					
Second Total Seco	٨				-				-	-		
3 No. Classification 2003 No. Classification 2003 Of Costs L.C. F.C. Total Total Construction Cost 3,679 4,921 8,600 1 Construction Cost 2,612 4,355 6,96 2 Land Acquisition 0 0 0 0 2 Land Acquisition 0 0 0 0 3 Administration 318 0 378 3 Administration 335 0 33 4 Engineering Services 167 670 837 4 Engineering Services 148 670 81 5 Physical Contingency 634 839 1,472 5 Physical Contingency 464 754 1,21 5 Sub-total 4,858 6,430 11,287 Sub-total 3,559 5,779 9,33 6 price Escalation 1,202 956 2,158 6 price Escalation 0 0 6 Grand Total 6,060 7,386 13,445 OM Cost 180 4 No. Classification 2004 No. Classification 2004 Sub-total 180 4 No. Classification 2,226 3,225 5,551 1 Construction Cost 1,580 2,942 4,51 7 Land Acquisition 0 0 0 0 2 Land Acquisition 0 0 0 8 Administration 189 0 189 3 Administration 167 0 16 9 Engineering Services 104 413 517 4 Engineering Services 92 413 50 9 Physical Contingency 378 551 939 5 Physical Contingency 276 503 77 9 Sub-total 2,897 4,299 7,196 Sub-total 2,116 3,859 5,97 9 Price Escalation 569 631 1,200 6 price Escalation 0 0 0 9 Grand Total 2,834 7,235 12,069 1 Construction Cost 3,432 6,403 9,83 9 L.C. F.C. Total Total 7 10 10 10 1 Construction Cost 4,834 7,235 12,069 1 Construction Cost 3,432 6,403 9,83 2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 0 3 Administration 604 0 604 3 Administration 335 0 51 3 Construction Cost 4,834 7,235 12,069 1 Construction Cost 3,432 6,403 9,83 3 Land Acquisition 505 604 604 3 Administration 505 605 605 605 605 605 605 3 L.C. F.C. Total 1 Construction Cost 3,432 6,403	,	•	-				o				0	
No. Classification of Costs L.C. F.C. Total No. Classification of Costs L.C. F.C. Total		01400 1000	0,242	3,314	17,330			Grand fotal	4,936	7,448	12,584	OM Cost 20
Construction Cost 3,679 4,921 8,600 1 Construction Cost 2,612 4,355 6,962 Land Acquisition 0 0 0 2 Land Acquisition 0 0 0 3 Administration 318 0 378 3 Administration 335 0 335 4 Engineering Services 167 670 837 4 Engineering Services 167 670 837 4 Engineering Services 168 670 81 5 Physical Contingency 634 839 1,472 5 Physical Centingency 464 754 1,21 5 Sub-total 4,858 6,430 11,287 5 Physical Centingency 464 754 1,21 5 Sub-total 4,858 6,430 11,287 5 Physical Centingency 464 754 1,21 5 Sub-total 3,559 5,779 9,33 6 Price Escalation 1,202 956 2,158 6 Price Escalation 0 0 0 0 0 0 0 0 0	3						3					
1 Construction Cost 3,679 4,921 8,600 1 Construction Cost 2,612 4,355 6,96 2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 0 3 Administration 318 0 378 3 Administration 335 0 33 4 Engineering Services 167 670 337 4 Engineering Services 148 670 81 5 Physical Contingency 634 839 1,472 5 Physical Contingency 644 754 1,21 Sub-total 4,858 6,430 11,287 Sub-total 3,559 5,779 9,33 6 price Escalation 1,202 956 2,158 6 price Escalation 0 0 0 Grand Total 6,060 7,386 13,445 OM Cost 180 4	No.	Classification		2003		•	No.	. Classification	•	2003		•
2 Land Acquisition 378 3 378 3 3 4 335 0 3 3 4 4 5 5 6 7 7		of Costs	L.C.	F.C.	Total	•		of Costs	L.C.	F.C.	Total	
3 Administration 378 0 378 3 Administration 335 0 33 4 Engineering Services 167 670 837 4 Engineering Services 148 670 81 5 Physical Centingency 514 839 1,472 5 Physical Centingency 464 754 1,21 Sub-total 4,858 6,30 11,287 Sub-total 3,559 5,779 9,33 6 price Escalation 1,202 956 2,153 6 price Escalation 0 0 0 Grand Total 6,060 7,386 13,445 OM Cost 180				-	8,600		1	Construction Cost	2,612	4,355	6,967	
4 Engineering Services 167 670 837 4 Engineering Services 148 670 81 5 Physical Contingency 634 839 1,472 5 Physical Contingency 464 754 1,21 Sub-total 4,858 6,430 11,287 Sub-total 3,559 5,779 9,33 6 price Escalation 1,202 956 2,158 6 price Escalation 0 0 0 Grand Total 6,060 7,386 13,445 OM Cost 180	_				-		2	Land Acquisition	0	0	0	
5 Physical Centingency Sub-total 634 839 1,472 Sub-total 5 Physical Centingency Sub-total 464 754 1,21 Sub-total 3,559 5,779 9,33 Sub-total 3,559 5,779 9,33 Sub-total 3,559 5,779 9,33 Sub-total 3,559 5,779 9,33 Sub-total 3,559 5,779 9,33 Sub-total 0 0 0 Grand Total 0 0 0 Grand Total 0 0 0 Grand Total 3,559 5,779 9,33 Sub-total 3,559 5,779 9,33 Sub-total 3,559 5,779 9,33 Sub-total 4 <t< td=""><td>3</td><td>Administration</td><td>378</td><td>Q</td><td>378</td><td></td><td>3</td><td>Administration</td><td>335</td><td>0</td><td>335</td><td></td></t<>	3	Administration	378	Q	378		3	Administration	335	0	335	
Sub-total	4	Engineering Services	167	670	837		4	Engineering Services	148	670	818	
6 price Escalation	5	Physical Contingency	634	839	1,472		5	Physical Contingency	464	754	1,218	
Grand Total 6,060 7,386 13,445 OM Cost 180 Grand Total 3,559 5,779 9,31		Sub-total	4,858	6.430	11,287			Sub-total	3,559	5,779	9,337	
A	6	price Escalation	1,202	956	2,158		6	price Escalation	0	0	0	
No. Classification of Costs L.C. F.C. Total No. Classification of Costs L.C. F.C. Total		Grand Total	6,060	7,386	13,445			Grand Total	3,559	5,719	9,337	OM Cost
of Costs I.C. F.C. Total of Costs L.C. F.C. Total 1 Construction Cost 2,226 3,325 5,551 1 Construction Cost 1,580 2,942 4,52 2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 0 3 Administration 189 0 189 3 Administration 167 0 16 4 Engineering Services 104 413 517 4 Engineering Services 92 413 50 5 Physical Contingency 378 561 939 5 Physical Contingency 276 503 17 Sub-total 2,897 4,299 7,196 Sub-total 2,116 3,859 5,91 6 price Escalation 569 631 1,200 6 price Escalation 0	4						4					-
of Costs I.C. F.C. Total of Costs L.C. F.C. Total 1 Construction Cost 2,226 3,325 5,551 1 Construction Cost 1,580 2,942 4,52 2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 0 3 Administration 189 0 189 3 Administration 167 0 16 4 Engineering Services 104 413 517 4 Engineering Services 92 413 50 5 Physical Contingency 378 561 939 5 Physical Contingency 276 503 77 Sub-total 2,897 4,299 7,196 Sub-total 2,116 3,859 5,97 6 price Escalation 569 631 1,200 6 price Escalation 0	No.	Classification		2004		-	No	. Classification		2001		•
2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 3 Administration 189 0 189 3 Administration 167 0 16 4 Engineering Services 104 413 517 4 Engineering Services 92 413 50 5 Physical Contingency 378 551 939 5 Physical Contingency 276 503 77 Sub-total 2,897 4,299 7,196 Sub-total 2,116 3,595 5,97 6 price Escalation 569 631 1,200 6 price Escalation 0 <td< td=""><td></td><td>of Costs</td><td>LC.</td><td>F.C.</td><td>Total</td><td></td><td></td><td>of Costs</td><td>L.C.</td><td>F.C.</td><td>Total</td><td></td></td<>		of Costs	LC.	F.C.	Total			of Costs	L.C.	F.C.	Total	
2 Land Acquisition 0 0 0 0 2 Land Acquisition 0 0 3 Administration 189 0 189 3 Administration 167 0 16 4 Engineering Services 104 413 517 4 Engineering Services 92 413 50 5 Physical Contingency 378 561 939 5 Physical Contingency 276 503 17 Sub-total 2,897 4,299 7,196 Sub-total 2,116 3,859 5,97 6 price Escalation 569 631 1,200 6 price Escalation 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1	Construction Cost	2,226	3,325	5,551		1	Construction Cost	1,580	2,942	4,523	
3 Administration 189 0 189 3 Administration 167 0 16 4 Engineering Services 104 413 517 4 Engineering Services 92 413 50 5 Physical Contingency 378 551 939 5 Physical Contingency 276 503 77 Sub-total 2,897 4,299 7,196 Sub-total 2,116 3,859 5,97 6 price Escalation 569 631 1,200 6 price Escalation 0	2	Land Acquisition	0	0	0		2		-	0	. 0	
4 Engineering Services 104 413 517 4 Engineering Services 92 413 50 5 Physical Contingency 378 551 939 5 Physical Contingency 276 503 77 Sub-total 2,897 4,299 7,196 Sub-total 2,116 3,859 5,97 6 price Escalation 569 631 1,200 6 price Escalation 0 0 0 Grand Total 3,466 4,930 8,396 OM Cost Grand Total 2,116 3,859 5,97 313 S No. Classification 2005 No. Classification of Costs L.C. F.C. Total of Costs L.C. F.C. Total 1 Construction Cost 4,834 7,235 12,069 1 Construction Cost 3,432 6,403 9,83 2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 0 3 Administration 535 0 53 4 Engineering Services 242 965 1,207 4 Engineering Services 214 965 1,175 Physical Contingency 852 1,230 2,082 5 Physical Contingency 627 1,105 1,73	3	Administration	189	. 0	189			•			167	
5 Physical Contingency Sub-total 378 561 939 5 Physical Contingency Sub-total Sub-total 276 503 177 6 price Escalation Opinic Escalation Opi	4	Engineering Services	104				-				505	
Sub-total 2,897 4,299 7,196 Sub-total 2,116 3,859 5,97	5										179	
6 price Escalation Grand Total 3,466 4,930 8,396 OM Cost 313 S No. Classification of Costs							•				5,975	
Grand Total 3,466 4,930 8,396 OM Cost Grand Total 2,116 3,859 5,97	6						6				0	
5 5 No. Classification of Costs 2005 No. Classification of Costs 2005 1 Construction Cost 4,834 7,235 12,069 1 Construction Cost 3,432 6,403 9,83 2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 3 Administration 604 0 604 3 Administration 535 0 53 4 Engineering Services 242 965 1,207 4 Engineering Services 214 965 1,17 5 Physical Contingency 852 1,230 2,082 5 Physical Contingency 627 1,105 1,73						OM Cost						OM Cost
No. Classification of Costs L.C. F.C. Total No. Classification of Costs L.C. F.C. Total Total Of Costs L.C. F.C. Total 1 Construction Cost 4,834 7,235 12,069 1 Construction Cost 3,432 6,403 9,83 2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 0 3 Administration 604 0 604 3 Administration 535 0 53 4 Engineering Services 242 965 1,207 4 Engineering Services 214 965 1,17 5 Physical Contingency 852 1,230 2,082 5 Physical Contingency 627 1,105 1,73	5											
of Costs L.C. F.C. Total of Costs L.C. F.C. Total 1 Construction Cost 4,834 7,235 12,069 1 Construction Cost 3,432 6,403 9,83 2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 0 3 Administration 604 0 604 3 Administration 535 0 53 4 Engineering Services 242 965 1,207 4 Engineering Services 214 965 1,17 5 Physical Contingency 852 1,230 2,082 5 Physical Contingency 627 1,105 1,73		Classification		2005		•		. Classification		2005	···	•
2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 3 Administration 604 0 604 3 Administration 535 0 53 4 Engineering Services 242 965 1,207 4 Engineering Services 214 965 1,17 5 Physical Contingency 852 1,230 2,082 5 Physical Contingency 627 1,105 1,73			L.C.		Total				L.C.		Total	
2 Land Acquisition 0 0 0 2 Land Acquisition 0 0 3 Administration 604 0 604 3 Administration 535 0 53 4 Engineering Services 242 965 1,207 4 Engineering Services 214 965 1,17 5 Physical Contingency 852 1,230 2,082 5 Physical Contingency 627 1,105 1,73	1	Construction Cost	4,834	7,235	12,069		1	Construction Cost	3.432	6.403	9,835	
3 Administration 604 0 604 3 Administration 535 0 53 4 Engineering Services 242 965 1,207 4 Engineering Services 214 965 1,17 5 Physical Contingency 852 1,230 2,082 5 Physical Contingency 627 1,105 1,73											0	
4 Engineering Services 242 965 1,207 4 Engineering Services 214 965 1,17 5 Chysical Contingency 852 1,230 2,082 5 Physical Contingency 627 1,105 1,73											535	
5 Physical Contingency 852 1,230 2,082 5 Physical Contingency 627 1,105 1,73											1,179	
							•				1,732	
	-						,			-	13,281	
	6			•							13,281	
	٠					OM Cost	Ü					OM Cost

TABLE J.3.6(2/2) ESTIMATE OF ECONOMIC COST FOR ANTOFAGASTA PROJECT

• •	nancial Cost						Conomic Cost				
No.	Classification		2006			No.	Classification		2006		
	of Costs	1.C.	F.C.	Total			of Costs	L.C.	F.C.	Total	
	Construction Cost	3,074	4,594	7,668			Construction Cost	2,183	4,065	6,248	
	Land Acquisition	413	0	0			Land Acquisition	0 418	0	0 418	•
	Administration	472 160	0 644	472 804		3 4	Administration Engineering Services	142	644	786	
	Engineering Services Physical Contingency	556	786	1,342		3	Physical Contingency	411	706	1,118	
	Sub-total	4,262	6,024	10,286		-	Sub-total	3,153	5,416	8,569	
	price Escalation	1,532	1,290	2,822		6	price Escalation	0	0	0	
•	Grand Total	5,794	7,314	13,108	DM Cost 642		Grand Total	3,153	5,416	8,569	OM Cost 324
7	سعواستان والوسي بي وي الاستنباط باساسي و ويوس وي .					1					
No.	Classification of Costs	L.C.	2007 F.C.	Total		No.	Classification of Costs	L.Ç.	2007 F.C.	Total	
	Construction Cost Land Acquisition	2,444 0	3,948	6,392 0		! 2	Construction Cost Land Acquisition	1,735	3,494 0	5,229 0	
	Administration	216	ō	216		3	Administration	191	0	191	
4	Engineering Services	118	474	592		4	Engineering Services	104	474	578	
5	Physical Contingency	417	663	1,080		5	Physical Contingency	305	595	900	
_	Sub-total	3,195	5.085	8,280			Sub-total	2,335	4,563 0	6,898 O	
0	price Escalation Grand Total	873 4,068	1,020 6,105	1,893 10,173 (OM Cost	0	price Escalation Grand Total	0 2,335	4,563	-	OM Cost
					820						387
8 No.	Classification		2008			8 No	Classification		2008		
	of Costs	I.C.	F.C.	Total			of Costs	I.C.	F.C.	Total	,
1	Construction Cost	3,235	5,530	8,765		1	Construction Cost	2,297	4,894	7,191	
•	Land Acquisition	0	0	0		2	Land Acquisition	0	0	0	
3	Administration	439	0	439		3	Administration	388	0	388	
	Engineering Services	175	701	876		4	Engineering Services	155	701	856	
5	Physical Contingency	571	935	1,512		5	Physical Contingency	426	839	1,265	
_	Sub-total	4,426	7,166 2,092	11,592 4,261			Sub-total price Escalation	3,266 0	6,434	9,700 0	
٥	price Escalation Grand Total	2,169 6,595	9,258		OM Cost	J	Grand Total	3,266	6,434		OM Cos
		·			996						- 439
No.	Classification		2009			9 No			2009		<u>.</u>
	of Costs	LC.	F.C.	Total			of Costs	L.C.	F.C.	Total	-
1	Construction Cost	3,735	6,513	10,248		1	Construction Cost	2,652	5,764	8,416	
2	Land Acquisition	0	0			2	•	0	0	(
3		513	0	513		3		454	0	454 1,001	
4	Engineering Services Physical Contingency	205 668	820 1,100	1,025 1,768		4	Engineering Services Physical Contingency	181 493	820 988	1,48	
5	Sub-total	5,121	8,433	13,554		,	Sub-total	3,780	7,571	11,352	
6	price Escalation	3,199	2,973	6,172		6		0	0		
-	Grand Total	8,320	11,406		OM Cost		Grand Total	3,780	7,571	11,35	OM Cos 511
					. 1,231	_	^		<u> </u>	•	- '''
No No	. Classification		2010		-	N	o. Classification		2010		-
	of Costs	L.C.	F.C.	Total	-	<u></u>	of Costs	ł.C.	F.C.	Total	_
1	Construction Cost	970	1,855	2,825			Construction Cost	689	1,642	2,33	
2	•	0	0	0		2	•	0	0		
3		416	0	416			Administration	368	0	35:	
4		81	325	406		4	0	72	325	39	
5	, , ,	220	327	547		1	Physical Contingency	169 1,298	295 2,262	46 3,55	
K	Sub-total price Escalation	1,687 1,601	2,507 2,651	4,194 4,255		,	Sub-total 5 price Escalation	1,298	2,202	-)
v	Grand Total	3,288			OM Cost	,	Grand Total	1,298	2,262		OM Co
					_ 1,541						_ 595
Tot	Classification		Total		-	To	tal Classification		Total		-
_	of Costs	L.C.	F.C.	Total	- -	_	of Costs	L.C.	F.C.	Total	-
1	Construction Cost	30,332	45,557	75,889)	1	1 Construction Cost	21,536	40,316	61,85	2
2	• • • • • • • • • • • • • • • • • • • •	0	0	Ó		-	2 Administration	0	-		G
3		3,795		3,795			3 Engineering Services	3,358		3,35	
1	•	1,517		7,588			4 Land Acquisition	1,342		7.43	
6	Physical Contingency	5,347				(Physical Contingency Substatel 	3,935			
	Sub-total	40,991 15 318					Sub-total 7 price Escalation	30, 172 0	-	-	, 0
•	7 price Escatation Grand Total	15,318 56,309		30,167 130,530	OM Cost		Grand Total	30,172			7 OM Co
_					1,602	_					_ 614

TABLE J.3.7(1/2) ESTIMATE OF ECONOMIC COST FOR SAN JUAN-ANTOFAGASTA PROJECT

Inancial Cost		Init · Re 1	000		(2) 1	Conomic Cost	1	hit-Re t	000	
Classification			14.54		Ma	Classification	······'			
	16		Total		NO.				7-1-1	
OI COSIS	1.0.	1.0.	10/81			or Costs	I.U.	J.C.	10(3)	
Construction Cost	1,782	2,052	3,834		1	Construction Cost	1,265	1.816	3,081	
Land Acquisition	0	0	0		2	Land Acquisition	. 0	0	0	
Administration	٥	0	0		3	Administration	0	0	0	
Engineering Services	60	239	299		4	Engineering Services	53	239	292	
Physical Contingency	276	344	620		5	Physical Contingency	198	308	506	
Sub-total	2,118	2,635	4,753			Sub-total	1,516	2,363	3,879	
	306	215	521		6	price Escalation	0	0	0	
Grand Total	2,424	2,850	5,274			Grand Total	1,516	2,363	3,879	OM Cos
										·
Classification		2002		•				2002		
of Costs	L.C.	F.C.	Total			of Costs	LC.	F.C.	Total	
Construction Cost	8,342	9,601	17,946		1	Construction Cost	5,923	8,499	14,422	
	0	0	-		2	Land Acquisition	0	0	0	
Administration	898	0	898		3	Administration	795	0	795	
Engineering Services	359	1,436			4	Engineering Services	318	1,436	1,754	
	1,440	1,656			5	Physical Contingency	1,055	1,490		
Sub-total	11,039	12,696				Sub-total	8,090	11,425		
	2,484	1,585	•		6	price Escalation	0	0	_	
Grand Total	13,523	14,281	27,804	OM Cost 46		Grand Total	8,090	11,425	19,516	OM Co.
				•	_					
Classification		2003		-	- No.	Classification		2002		
of Costs	L.C.	F.C.	Total	•	140.	of Costs	L.C.	F.C.	Total	
0.4.2.0.		0.326		-	-					•
		_			i o		-			
•	-							-		
					-					
								•		
					•					
	•		•		6		0			
Grand Total	10,730	12,661		OM Cost		Grand Total	6,156	9,831	15,986	OM Co 175
				. 200	_					. "
Classification	·	2004		•		Classification		2004		-
	L.C.		Total	-			1.C.		Total	•
				-						•
Construction Cost	4,181	6,266	10,447		1	Construction Cost	2,969	5,545	8,514	
Land Acquisition	0	0	-		2	Land Acquisition	0	0	-	
Administration	445	0	445		3	Administration	394	0	394	
Engineering Services	207	823	1,030	1	4	Engineering Services	183	823	1,006	
Physical Contingency	725	1,063	1,788		5	Physical Contingency	532	955	1,487	
Sub-total	5,558	8,152	13,710	1		Sub-total	4,077	7,323	11,401	
	1,641	1,466	3,107		6	price Escalation	0	0	0	
Grand Total	7,199	9,618	16,817			Grand Total	4,077	7,323	11,401	OM Co 295
				•						
Classification		2005		-		Classification		2005		•
of Costs	L.C.	F.C.	Total	- -		of Costs	L.C.	F.C.	Total	<i>-</i> -
Construction Cost	7,457	11,130	18,587		1	Construction Cost	5,294	9,850	15,144	
Land Acquisition	0	0	0	1	2	Land Acquisition	. 0	0	0	
Administration	930	0	930	1	3	Administration	823	0	823	
Engineering Services	373	1,486	1,859	+	4	Engineering Services	330	1,486		
Physical Contingency	1,314	1,892			5	Physical Contingency	967	1,700		
Sub-total	10,074	14,508	24,582			Sub-total	7,415	13,036	20,451	
	4,247	3,407			6	price Escalation	0	0		
Grand Total	14,321	17,915	32,236	OM Cost		Grand Total	7,415	13,036	20,451	OM Co
				705		•	•	·	•	38
	price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Contingency Sub-total price Escalation	Classification of Costs L.C.	Classification of Costs L.C. F.C.	Unit : Bs. 1,000	Classification of Costs	Classification of Costs	Unit: P3. 1,000	Classification	Classification	Classification of Cests 1.C FC Total

TABLE J.3.7(2/1) ESTIMATE OF ECONOMIC COST FOR SAN JUAN-ANTOFAGASTA PROJECT

6	inancial Cost					6					
lo.	Classification		2006			No.	Classification		2006		
	of Costs	I.C.	F.C.	Total			of Costs	1. C.	F.C.	Total	
ı	Construction Cost	7,164	10,450	17,614		1	Construction Cost	5,086	9,248	14,334	
_	Land Acquisition	0	0	Ó			and Acquisition	0	0	0	
3	Administration	789	0	789		3 .	Administration	698	0	698	
4	Engineering Services	344	1,376	1,720			Engineering Services	304	1,376	1,680	
5	Physical Contingency	1,245	1,774	3,018			Physical Contingency	913	1,594	2,507	
4	Sub-total price Escalation	9,542 4,730	13,600 3,684	23,141 8,414			Sub-total price Escalation	7,002	12,217	19,220	
v	Grand Total	14,272	17,284		OM Cost		Grand Total	7,002	12,217	19,220	OM Co
					1,052			······································			531
7						7		·			
lo.	Classification of Costs	1C.	2007	Total		No.	Classification of Costs	L.C.	2007 F.C.	Total	
	Of Costs	1.0.	F.C.	Total			Of Costs	1.0.	r.c.	LOGI	
	Construction Cost	9,422	13,819	23,241			Construction Cost	6,690	12,229	18,919	
	Land Acquisition	0	0	0			Land Acquisition	0	0	0	
	Administration Engineering Services	1,018 452	0	1,018			Administration	901 400	0 1,808	901 2,208	
	Physical Contingency	1,634	1,808 2,344	2,260 3,978			Engineering Services Physical Contingency	1,199	2,106	3,301	
	Sub-total	12,526	17,971	30,497			Sub-total	9,189	16,143	25,332	
6	price Escalation	7,576	5,770	13,346			price Escalation	0,167	0,(43	27,352	
•	Grand Total	20,102	23,741	-	OM Cost		Grand Total	9,189	16,143	25.332	OM Co
		· · · · · · · · · · · · · · · · · · ·			1,430						675
8						8					
No.	Classification of Costs	L.C.	2008 F.C.	Total		No.	Classification of Costs	LC.	2008 F.C.	Total	
	Of Costs	1.0.		1001			01 0333	<u> </u>		(144)	
	Construction Cost	10,179	15,501	25,680			Construction Cost	7,227	13,718	20,945	
	Land Acquisition	1 2 2 2	0	0			Land Acquisition	0	0	1 136	
4	Administration Engineering Services	1,272 508	2026	1,272			Administration Engineering Services	1,126 450	0 2,036	1,126 2,486	
	Physical Contingency	1,794	2,036 2,631	2,544			Physical Contingency	1,320	2,363	3,683	
•	Sub-total	13,753	20,168	4,424 33,920			Sub-total	10,123	18,117	28,239	
6	price Escalation	9 989	7,595	17,584			price Escalation	0	0	0	
	Grand Total	23,742	27,763		OM Cost	-	Grand Total	[0,123	18,117		OM Co
					1,958						864
9 No	. Classification		2009	·		No.	Classification		2009		
	of Costs	L.C.	F.C.	Total			of Costs	L.C.	F.C.	Total	
3	Construction Cost	8,070	13,039	21,109		1	Construction Cost	5,730	11,539	17,269	
		0	0	0		2	Land Acquisition	0	0	0	
3	Administration	1,237	0	1,237		3	Administration	1,095	0	1,095	•
4	Engineering Services	438	1,752	2,190		4	Engineering Services	388	1,752	2,140	
5	,	1,462	2,219	3,680		5	Physical Contingency	1,082	1,994	3,075	
,	Sub-total	11,207	17,010	28,216		_	Sub-total	8,294	15,285	23,578	
6	price Escalation Grand Total	9,085 20,292	7,092 24 102	16,177 44 393	OM Cove	6	price Escalation Grand Total	0 8,294	0 15,285	0 23 578	OM Co
_	CHAIN (DIA)	20,292	24,102	44,373	OM Cost 2,599		Grand Total	0,294	13,463	43,316	1,073
10	,				•	10		-			-
No	. Classification		2010			No.			2010		• •
		L.C.	F.C.	Totat			of Costs	L.C.	F.C.	Total	-
	of Costs	1.0.			-						
ı	Construction Cost	1,361	2,576	3,937	•	1	Construction Cost	966	2,280	3,246	
1 2	Construction Cost			3,937 0		1 2	Construction Cost Land Acquisition	966 0	0	0	
3	Construction Cost Land Acquisition Administration	1,361 0 674	2,576 0 0	0 674		2	Land Acquisition Administration	966 0 596	0	0 596	
3	Construction Cost Land Acquisition Administration Engineering Services	3,361 0 674 120	2,576 0 0 485	674 605		2 3 4	Land Acquisition Administration Engineering Services	966 0 596 106	0 0 485	596 591	
3	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency	1,361 0 674 120 323	2,576 0 0 485 459	0 674 605 782		2	Land Acquisition Administration Engineering Services Physical Contingency	966 0 596 106 250	0 0 485 415	596 591 665	
3 4 5	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total	1,361 0 674 120 323 2,478	2,576 0 0 485 459 3,520	0 674 605 782 5,998		2 3 4 5	Land Acquisition Administration Engineering Services Physical Contingency Sub-total	966 0 596 106 250 1,919	0 0 485 415 3,179	0 596 591 665 5,099	1
3 4 5	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency	1,361 0 674 120 323	2,576 0 0 485 459	0 674 605 782 5,998 6,246		2 3 4 5	Land Acquisition Administration Engineering Services Physical Contingency	966 0 596 106 250	0 0 485 415	596 591 665 5,099	
3 4 5	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation	1,361 0 674 120 323 2,478 2,475	2,576 0 0 485 459 3,520 3,771	0 674 605 782 5,998 6,246		2 3 4 5	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation	966 0 596 106 250 1,919	0 485 415 3,179 0	596 591 665 5,099	ом с
3 4 5	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	1,361 0 674 120 323 2,478 2,475	2,576 0 0 485 459 3,520 3,771	0 674 605 782 5,998 6,246	OM Cost	2 3 4 5	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	966 0 596 106 250 1,919	0 0 485 415 3,179 0 3,179	596 591 665 5,099	ом с
2 3 4 5	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	3,361 0 674 120 323 2,478 2,475 4,953	2,576 0 0 485 459 3,520 3,771 7,291	0 674 605 782 5,998 6,246 12,244	OM Cost	2 3 4 5	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	966 0 596 106 250 1,919 0	0 0 485 415 3,179 0 3,179	0 596 591 665 5,099 0 5,099	ом с
2 3 4 5	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	1,361 0 674 120 323 2,478 2,475	2,576 0 0 485 459 3,520 3,771 7,291	0 674 605 782 5,998 6,246	OM Cost	2 3 4 5	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total	966 0 596 106 250 1,919	0 0 485 415 3,179 0 3,179	596 591 665 5,099	омс
2 3 4 5 6	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost	1,361 0 674 120 323 2,478 2,475 4,953	2,576 0 0 485 459 3,520 3,771 7,291 Total E.C.	0 674 605 782 5,998 6,246 12,244 Total	OM Cost 3,229	2 3 4 5 6 Tota	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost	966 0 596 106 250 1,919 0 1,919	0 0 485 415 3,179 0 3,179 Total F.C.	0 596 591 665 5,099 0 5,099 Total	OM C 1,24
2 3 4 5 6	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration	1,361 0 674 120 323 2,478 2,475 4,953 L.C. 64,399 0	2,576 0 0 485 459 3,520 3,771 7,291 Total F.C.	0 674 605 782 5,998 6,246 12,244 Total	OM Cost 3,229	2 3 4 5 6 Tota	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration	966 0 596 106 250 1,919 0 1,919	0 0 485 415 3,179 3,179 Total F.C.	0 596 591 665 5,099 5,099 Total 127,859 0	OM C 1,24
2 3 4 5 6 Tot	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services	1,361 0 674 120 323 2,478 2,475 4,953 L.C. 64,399 0 7,861	2,576 0 0 485 459 3,520 3,771 7,291 Total E.C.	0 674 605 782 5,998 6,246 12,244 Total	OM Cost 3,229	2 3 4 5 6 Tota	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services	966 0 596 106 250 1,919 0 1,919	0 0 485 415 3,179 0 3,179 Total F.C. 82,135	0 596 591 665 5,099 5,099 Total	OM C 1,24
2 3 4 5 6	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services Land Acquisition	1,361 0 674 120 323 2,478 2,475 4,953 L.C. 64,399 0 7,861 3,144	2,576 0 0 485 459 3,520 3,771 7,291 Total E.C. 92,813 0 0	0 674 605 782 5,998 6,246 12,244 Total 157,212 0 7,861 15,721	OM Cost 3,229	2 3 4 5 6 Tota	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services Land Acquisition	966 0 596 106 250 1,919 0 1,919	0 0 485 415 3,179 0 3,179 Total F.C. 82,135 0 0	0 596 591 665 5,099 0 5,099 Total 127,859 0 6,957 15,359	OM C - 1,24
2 3 4 5 6	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services Land Acquisition Physical Contingency	1,361 0 674 120 323 2,478 2,475 4,953 L.C. 64,399 0 7,861 3,144 11,311	2,576 0 0 485 459 3,520 3,771 7,291 Total F.C. 92,813 0 0 12,577 15,809	0 674 605 782 5,998 6,246 12,244 Total 157,212 0 7,861 15,721 27,119	OM Cost 3,229	2 3 4 5 6 Tota	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services Land Acquisition Physical Contingency	966 0 596 106 250 1,919 0 1,919 L.C. 45,723 0 6,957 2,782 8,319	0 0 485 415 3,179 0 3,179 Total F.C. 82,135 0 0 12,577 14,207	00 596 591 665 5,099 0 5,099 Total 127,859 0 6,957 15,359 22,526	OM C 3,24
2 3 4 5 6 Tot	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services Land Acquisition Physical Contingency Sub-total	1,361 0 674 120 323 2,478 2,475 4,953 L.C. 64,399 0 7,861 3,144 11,311 86,715	2,576 0 0 485 459 3,520 3,771 7,291 Total E.C. 92,813 0 0 12,577 15,809	0 674 605 782 5.998 6.246 12.244 Total 157.212 0 7.861 15,7212 27,119 207,913	OM Cost 3,229	2 3 4 5 6 Tota	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services Land Acquisition Physical Contingency Sub-total	966 0 596 106 250 1,919 0 1,919	0 0 485 415 3,179 0 3,179 Total F.C. 82,135 0 0	0 596 591 665 5,099 0 5,099 Total 127,859 0 6,957 15,359	OM Co 3,246
2 3 4 5 6 Tot	Construction Cost Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services Land Acquisition Physical Contingency	1,361 0 674 120 323 2,478 2,475 4,953 L.C. 64,399 0 7,861 3,144 11,311 86,715 44,843	2,576 0 0 485 459 3,520 3,771 7,291 Total F.C. 92,813 0 0 12,577 15,809	0 674 605 782 5,998 6,246 12,244 Total 157,212 0 7,861 15,721 27,119 207,913 81,150	OM Cost 3,229	2 3 4 5 6 Tota	Land Acquisition Administration Engineering Services Physical Contingency Sub-total price Escalation Grand Total Classification of Costs Construction Cost Administration Engineering Services Land Acquisition Physical Contingency	966 0 596 106 250 1,919 0 1,919 L.C. 45,723 0 6,957 2,782 8,319 63,782	0 0 485 415 3,179 0 3,179 Total F.C. 82,135 0 0 12,577 14,207 108,919	Total 127,859 0,537 15,399 22,526 172,701	OM Co 1,240

TABLE J.4.1 ECONOMIC ANALYSIS FOR CHANE AND PAILON AREAS

1. Rio Chane Area

2. Rio Pailon Arca

	• • • • • • • • • • • • • • • • • • • •	e Altu			Unit : Bs.	1.000	2. A.K	0 1 2330	n Arca			Heit :	Bs.1,00
No.	Year	Fee	nomic Co	st		(B)(C)	No.	Year	Ecc	nomic Co	st	Economic	(B)-(C
		Construction	OM	Total (C)	Benefit (B)				Construction			Benefit (B)	
1	2001	0	0	0	0	0	1	2001	0	0	0	0	
2	2002	1,993	0	1,993	0	-1,993	ż	2002	ŏ	ő	ŏ	ő	
3	2003	68,606	0	68,606	0	-68,606	3	2003		ŏ	111	ő	-11
4	2004	68,606	503	69.114	4,323	64,791	. 4	2004	1,515	ŏ	1,515	ŏ	-1,5
5	2005	56,810	1,017	57,827	8,654	-49,173	Š	2005		11	3,986	258	-3,7
6	2006	0	1,453	1.453	12,364	10,911	6	2006		22	62 28 1	515	61.7
7	2007	0	1,453	1,453	12,364	10,911	7	2007		483	79.057	11,308	67,7
8	2008	0	1,453	1.453	12,364	10,911	8	2008		1,066	66,459	24,958	41.5
9	2009	0	1,453	1.453	12,364	10,911	ğ	2009		1,547	80 851	36,219	416
to	2010	Ö	1,453	1.453	12,364	10,911	10	2010		2,153	24.076	50,407	26.3
11	2011	Ō	1,453	1,453	12,364	10,911	ii	2011	0	2,321	2,321	54,340	52,0
12	2012	Ö	1,453	1,453	12,364		12	2012		2,321	2 321	54,340	52 C
13	2013	0	5,453	1,453		10,911	13	2013		2,321	2 321	54,340	52.0
14	2014	Ö	1,453	1,453	12,364	10,911	14	2014		2,321	2,321	54,340	52 (
15	2015	0	1,453	1,453	12,364	10,911	15	2015		2,321	2.321	54,340	52.0
16	2016	ō	1,453	1,453	12,364	10,911	16	2016		2,321	2,321	54,340	52,0
17	2017	Ó	1,453	1,453	12,364	10,911	17			2,321	2,321		
18	2018	ō	1,453	1,453	12,364	10,911	18	2018		2,321		54,340	52.0
19	2019	ō	1,453	1,453	12,364	10,911	19	2019			2,321	54,340	52,
20	2020		1,453	1,453	12,364	10,911	20			2,321	2,321	54,340	52,0
21	2021	ŏ	1,453	1,453	12,364	10,911		2021	_	2,321	2,321	54,340	52,1
22	2022	. ŏ	1,453	1,453	12,364	10,911	21		0	2,321	2,321	54,340	52,0
23	2023	. 0	1,453	1,453	12,364		22			2,321	2,321	54,340	52,0
24	2024	ő	1,453	1,453	12,364	10,911	23	2023		2,321	2,321	54,340	52,0
25	2025	ő	1,453			110,01	24	2024		2,321	2,321	54,340	52,0
26	2025	0	1,453	1,453 1,453	12,364 12,364	10,911	25			2,321	2,321	54,340	52,0
27	2027	ő				10,911	26			2,321	2,321	54,340	52,0
28	2028	0	1,453	1,453	12,364	10,911	27			2,321	2,321	54,340	52,0
29	2029		1,453	1,453	12,364	10,911	28	2028		2,321	2,321	54,340	52,0
30	2030	0	1,453	1,453	12,364	10,911	29	2029		2,321	2,321	54,340	52,0
			1,453	1,453	12,364	10,911	30	2030		2,321	2,321	54,340	52,0
31	2031	0	1,453	1,453	12,364	10,911	31	2031	0	2,321	2,321	54,340	52,0
32	2032	0	1,453	1,453	12,364	10,911		2032		2,321	2,321	54,340	52,0
33	2033	0	1,453	1,453	12,364	10,911	33	2033		2,321	2,321	54,340	52,0
34	2034	0	1,453	1,453	12,364	10,911	34	2034		2,321	2,321	54,340	52,0
35	2035	0	1,453	1,453	12,364	10,911	35	2035		2,321	2,321	54,340	52,0
36	2036		0	0	0	0	36	2036		2,321	2,321	54,340	52,0
37	2037	0	0	. 0	0	0	37	2037		2,321	2,321	54,340	52,0
38	2038	0	0	0	0	0	38	2038		2,321	2,321	54,340	52,0
39	2039	0	0	0	0	0	39	2039		2,321	2,321	54,340	52,0
40	2010		0	0	0	0	40	2040		2,321	2,321	54,340	52,0
41	2041	0	0	0	0	0	41	2041	0	0	0	0	
	Total	196,015	45,115	241,130	383,897	142,767		Total	313,057	74.912	387.969	1,753,864 (365

			EIRR (%)	3.83
Discount	B/C	PV(Bs	. 1,000)	NPV
Rate (%)		Cost	Benefit	Bs. 1,000)
15	0.39	119,626	47,136	-72,490
12	0.48	133,798	64,170	-69,628
10	0.56	144,809	80,697	-64,112
5	0.88	180,742	159,258	-21,485
3	1.10	200,518	220,350	19,832

			EIRR (%)	16.39
Discount	B/C			NPV
Rate (%)		Cost	Benefit	Bs. 1,000
15	1.09	113,995	123,710	9,715
12	1.32	140,389	185,326	45,438
10	1.54	162,330	250,189	87,859
5	2.45	240,911	592,633	351,722
3	3.09	287,523	887,341	599,818

TABLE J.4.2 ECONOMIC ANALYSIS FOR OKINAWA DRAINAGE AREA & CHANE-PAILON PROJECT

1. Okinawa Brainage Area Unit : Bs.1,000						2. Chane-Pailon Project (Eastern Area) Unit : Bs					1 000		
No.	Year	Econ	omic Cost	T:		(f))(C)	No.	Year	Fcor	ternic Cos		Economic	(B)(C)
NO.	-			otal (C) Be		(1)/(0)	410.		Construction		otal (C) B		(.,,(0)
		nstruction	OMI	Marichia	14/11/2		•		e on squerion		VID I V		
	2001	\$26	0	526	0	-526	1	2001	526	0	526	0	-526
1	2001 2002	526 31,256	. 0	31,256	. 0	-31,256	2	2002	33,249	ŏ	33,249	Ŏ.	33,249
2	2002	20,550	232	20,782	6,024	-14,758	3	2003	89,267	232	89,499	6,024	-83,475
-			387	3,668	10,049	6,381	4	2004	73,402	895	74,297	14,372	59,925
4 5	2004 2005	3,281	411	3,692	10,672	6,980	5	2005	64,066	1,439	65,505	19,584	-45,921
		3,281	435	3,832	11,295	7,463	6	2006	65,659	1,910	67,569	24,174	-43,395
6	2006	3,397	460	4,210	11,944	7,734	ž	2007	82,324	2,396	84,720	35,617	-49,103
7 8	2007 2008	3,750 3,398	458	3,886	12,671	8,785	8	2008	68,791	3,007	71,798	49,993	21,805
9	2009	3,373	513	3,794	13,321	9,527	ý	2009	82,585	3,513	86,098	61,903	-24,195
_	2010	2,807	538	3,345	13,970	10,625	10	2010	24,730	4,141	28,874	76,740	47,866
10		2,807	560	560	14,541	13,981	ii	2011	0	4,334	4,334	81,245	76,911
11 12	2011 2012	ŏ	56 0	560	14,541	13,981	12	2012	ő	4,331	4,331	81,245	76,911
13	2012	ŏ	560	560	14,541	13,981	13	2013	ŏ	4,334	4,334	81,245	76,911
14	2014	ŏ	560	560	14,541	13,981	14	2014	Ö.	4.334	4,334	81,245	76,911
15	2015	0	560	560	14,541	13,981	15	2015	ŏ	4,331	4,334	81,245	76,911
16	2016	-0	560	560	14,541	13,981	16	2016	ŏ	4,334	4,334	81,245	76,911
17	2017	0	560	560	14,541	13,981	17	2017	ő	4,334	4,334	81,245	76,911
18	2018	Ö	560	560	14,541	13,981	18	2018	ŏ	4,334	4,334	81,245	76,911
19	2019	0	560	560	14,541	13,981	19	2019	ŏ	4,331	4,334	81,245	76,911
20	2020	0	560	560	14,541	13,981	20	2020	ŏ	4,334	4,334	81,245	76,911
21	2021	0	560	560	14,541	13,981	21	2021	ŏ	4,334	4,334	81,245	76,911
22	2022	0	560	560	14,541	13,981	22	2022	o ·	4 334	4,334	81,245	76,911
	2023	0	560	560	14,541	13,981	23	2023	. 0	4 334	4,334	81,245	76,911
23 24	2023	0	560	560	14,541	13,981	24	2024	Ö	4.334	4,334	81,245	76,911
25	2024	0	560	560	14,541	13,981	25	2025	ŏ	4,334	4,334	81,245	76,911
26	2026	0	560	560	14,541	13,981	26	2026		4,334	4,334	81,245	76,911
20 27	2027	0	560	560	14,541	13.981	27		ŏ	4.334	4,334	81,245	76,911
28	2027	0	560	560	14,541	13,981	28		ő	4.334	4,334	81,245	76,911
29	2029	ŏ	560	560	14,541	13,981	29		ŏ	4,334	4,334	81,245	76,911
30		0	560	560	14,541	13,981	30			4,334	4,334	81,245	76,911
31	2031	. 0	560	560	14,541	13,981	31	2031	ŏ	4,334	4,334	81,245	76,911
32		0	560	560	14,541	13,981	32		_	4,334	4,334	81,245	76,911
33		ő	560	560	14,541	13,981	33			4,334	4,334	81,245	76,911
34		0	560	560	14,541	13,981	34			4,334	4,334	81,245	76,911
35		0	560	560	14,541	13,981	35			4,334	4,334	81,245	76,911
36		Ő	560	560	14,541	13,981	36			2,881	2,881	68,881	66,000
37		0	560	560	14,541	13,981	37			2,881	2,881	68,881	66,000
38		ő	560	560	14,541	13,981	38			2,881	2,881	68,883	66,000
39		ŏ	560	560	14,541	13,981	39			2,881	2,881	68,881	66,000
40		0	\$60	560	14,541	13,981	40			2,881	2,881	68,881	66,000
41		ŏ	0	0	0		41			0	0	0	0
.,	2011	•	•	•	_	J			·		-	·	
	Total	75,527	20,264	95,791	526,176	430,385		Total	584,599	140,291	724,890	2,663,937	1,939,047
					EIRR (%)					<u>_</u>		EIRR (%)	12.08
		Discount	BVC		<u> </u>	NPV			Discount	B/C			NPV
		Rate (%)		Cost	Benefit	Bs. 1,000)			Rate (%)		Cost		(Bs. 1,000)
		15	1 21	49,013	59,368				15	0.81	282,634	230,214	-52,420
		12	1.48	53,918	79,987	•			12	1.01	328,105	329,984	1,879
		10	1.74	57,791	100,317	•			10	1.18	364,930	431,202	66,272
		5	2.84	70,980		130,739			5	1.94	492,633	953,609	460,976
		3	3.63	78,699	285,500	206,801			3	2.46	566,740	1,393,191	826,451

TABLE J.4.3 ECONOMIC ANALYSIS FOR SAN JUAN AND ANTOFAGASTA AREAS

No. Year Economic Cost Percents (ii) (C) No. Year Economic Cost Economic (II) (Construction OM Total (C) Benefit (II)	1, San Juan Area Unit : Bs. 1,000						2. Antofagasta Area					Unit : Bs. 1,000		
1 2001	No	Yes	Fco	nomic Co				No	Year	Fee	nomic Co	net		(B)(C)
2 2002							(1)/(0)							(1)/(0)
3 2003 6,619 64 6,713 1,151 -5,562 3 2003 9,337 111 9,448 3,605 -367 4 2004 5,426 114 5,540 2,059 -3,409 4 2004 5,975 181 6,755 5,878 -2 5 2005 7,170 154 7,324 2,709 4,515 5 2005 13,281 226 13,507 7,240 -6,1 6 2006 10,651 207 10,858 3,722 -7,136 6 2006 8,569 3,87 7,285 12,558 5,2 2 2,789 1,051				0						2,462	0	2,462	0	-2,462
4 2004 5,426 114 5,540 2,050 3,490 4 2004 5,975 181 6,155 5,878 2,7 5 2005 7,170 154 7,344 2,769 4,555 5 2005 13,281 226 13,507 7,140 4,5 6 2006 10,651 207 10,858 3,722 7,136 6 2006 8,669 324 8,893 10,522 1,6 7 2007 18,433 288 18,721 5,178 -13,543 7 2007 6,898 387 7,285 12,568 5,2 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0														-11,754
\$ 2005 7,170 154 7,324 2,769 4,555 5 2005 13,281 226 13,507 7,740 4,6 6 2066 10,551 207 10,838 3,722 -7,115 6 2005 8,569 324 8,893 10,522 1,6 7 2007 18,433 288 18,221 5,178 -13,543 7 2,007 6,698 387 7,285 12,558 5,2 8 2008 18,359 425 18,564 7,541 -11,323 8 2008 9,700 439 10,139 14,257 4,1 10 2010 1,539 651 2,190 11,704 9,514 10 2010 3,559 505 4,154 19,224 15,1 12 2011 0 660 660 11,866 11,206 11 2011 0 619 619 20,103 19,1 12 2012 0 660 660 11,866 11,206 11 2011 0 619 619 20,103 19,1 12 2012 0 660 660 11,866 11,206 11 2011 0 619 619 20,103 19,1 12 2012 0 660 660 11,865 11,206 11 2013 0 619 619 20,103 19,1 12 2014 0 660 660 11,865 11,206 11 2013 0 619 619 20,103 19,1 12 2014 0 660 660 11,865 11,206 11 2014 0 619 619 20,103 19,1 12 2015 0 660 660 11,865 11,206 11 2015 0 619 619 20,103 19,1 15 2015 0 660 660 11,865 11,206 11 2015 0 619 619 20,103 19,1 15 2015 0 660 660 11,865 11,206 11 2015 0 619 619 20,103 19,1 15 2015 0 660 660 11,865 11,206 11 2015 0 619 619 20,103 19,1 15 2015 0 660 660 11,865 11,206 11 2015 0 619 619 20,103 19,1 15 2015 0 660 660 11,865 11,206 11 2015 0 619 619 20,103 19,1 17 2017 0 619 619 20,103 19,1 17 2017 0 660 660 11,865 11,206 11 2015 0 619 619 20,103 19,1 19 2017 0 660 660 11,865 11,206 11 2015 0 619 619 20,103 19,1 19 2017 0 660 660 11,866 11,206 12 2012 0 619 619 20,103 19,1 19 2017 0 660 660 660 11,866 11,206 12 2012 0 619 619 20,103 19,1 19 2017 0 660 660 660 11,866 11,206 12 2012 0 619 619 20,103 19,1 19 2017 0 660 660 660 11,866 11,206 12 2012 0 619 619 20,103 19,1 19 2012 0 660 660 11,866 11,206 21 2012 0 619 619 20,103 19,1 12 2012 0 660 660 11,866 11,206 21 2012 0 619 619 20,103 19,1 12 2012 0 660 660 11,866 11,206 21 2012 0 619 619 20,103 19,1 12 2012 0 660 660 11,866 11,206 21 2012 0 619 619 20,103 19,1 12 2012 0 660 660 11,866 11,206 21 2012 0 619 619 20,103 19,1 12 2012 0 660 660 11,866 11,206 21 2012 0 619 619 20,103 19,1 12 2012 0 660 660 660 11,866 11,206 21 2012 0 619 619 20,103 19,1 12 2012 0 660 660 660 11,866 11,206 21 2012 0 619 619 20,103 19,1 12 2012 0 660 660 660					•							-		-5,813
6 2006 10,651 207 10,858 3,722 -7,136 6 2006 8,569 324 8,893 10,522 17, 207 208 18,339 425 18,964 7,641 -11,323 8 2008 9,700 439 10,139 12,558 52,800 12,227 562 12,789 10,104 -2,685 9 2009 11,352 511 11,863 16,596 4,7 11,001 1,539 551 2,159 11,704 9,514 10 2010 3,559 595 4,154 19,224 15,111 12,011 0 660 660 660 11,865 11,206 11 2011 0 619 619 20,103 19,4 12,2012 13,2013 0 660 660 11,865 11,206 11 2011 0 619 619 20,103 19,4 13,2013 0 660 660 11,865 11,206 11 2011 0 619 619 20,103 19,4 14,2014 0 660 660 11,866 11,206 11,206 11,206 11,206 12,2012 0 619 619 20,103 19,4 14,2014 0 619 619 20,103 19,4 14,2014 0 619 619 20,103 19,4 14,2014 0 619 619 20,103 19,4 14,2014 0 619 619 20,103 19,4 14,2014 0 619 619 20,103 19,4 14,2014 0 619 619 20,103 19,4 14,2014 0 619 619 20,103 19,4 14,2014 0 619 619 20,103 19,4 14,2014 0 619 619 20,103 19,4 14,2014 0 619 619 20,103 19,4 14,2014														-278
7 2007	-					•	•							-6,167
8 2008 18,339 425 18,954 7,641 -11,333 8 2008 9,700 439 10,139 14,257 44, 10 2010 1,539 551 2,150 11,704 9,514 10 2010 3,559 535 4,154 19,224 15,111 2011 0 660 660 660 11,866 11,206 11 2011 0 619 619 20,103 19, 13 2013 0 660 660 11,866 11,206 12 2012 0 619 619 20,103 19, 13 2013 0 660 660 11,866 11,206 13 2013 0 619 619 20,103 19, 15 2015 0 660 660 11,866 11,206 13 2013 0 619 619 20,103 19, 15 2015 0 660 660 11,866 11,206 15 2015 0 619 619 20,103 19, 16 2016 0 660 660 11,866 11,206 15 2015 0 619 619 20,103 19, 16 2016 0 660 660 11,866 11,206 15 2015 0 619 619 20,103 19, 16 2016 0 660 660 11,866 11,206 15 2015 0 619 619 20,103 19, 18 2018 0 660 660 11,866 11,206 15 2018 0 619 619 20,103 19, 18 2018 0 660 660 11,866 11,206 12 2012 0 619 619 20,103 19, 18 2018 0 660 660 11,866 11,206 12 2012 0 619 619 20,103 19, 20 2020 0 660 660 11,866 11,206 20,202 0 619 619 20,103 19, 20 2020 0 660 660 11,866 11,206 20,202 0 619 619 20,103 19, 20 2020 0 660 660 11,866 11,206 20,202 0 619 619 20,103 19, 20 202 20 20 20 20 20 20 20 20 20 20 20 20 20					-	-	-			•		-	-	1,629
9 2009														5,283
10 2010 1,539 651 2,150 11,704 9,514 10 2010 3,559 505 4,154 19,224 15,1 12,012 10 660 660 11,866 11,206 12 2012 0 619 20,103 19,4 13,2 13,3 13,2 13,3 13,3 10 660 660 11,866 11,206 13 2013 0 619 619 20,103 19,4 14 2014 0 660 660 11,866 11,206 13 2013 0 619 619 20,103 19,4 15,2 10 10 10 10 10 10 10 1										•				4,118
11 2011			·-				-	•					•	4,733
12 2012			-											15,170
13 2013													-	19,481
14 2014													•	19,484
15 2015 0 660 660 11,866 11,206 15 2015 0 619 619 20,103 19,4 16 2016 0 660 660 660 11,865 11,206 16 2016 0 619 619 20,103 19,4 17 2017 0 660 660 660 11,865 11,206 17 2017 0 619 619 20,103 19,4 18 2018 0 660 660 660 11,866 11,206 18 2018 0 619 619 20,103 19,4 19 2019 0 660 660 660 11,866 11,206 19 2019 0 619 619 20,103 19,4 19 2019 0 660 660 660 11,866 11,206 20 2020 0 619 619 20,103 19,4 19 2012 0 660 660 660 11,866 11,206 21 2021 0 619 619 20,103 19,4 12 2021 0 660 660 660 11,866 11,206 22 2022 0 619 619 20,103 19,4 12 2022 0 660 660 660 11,866 11,206 22 2022 0 619 619 20,103 19,4 12 2023 0 660 660 660 11,866 11,206 23 2023 0 619 619 20,103 19,4 12 2024 0 660 660 660 11,866 11,206 24 2024 0 619 619 20,103 19,4 12 2025 0 660 660 660 11,866 11,206 25 2025 0 619 619 20,103 19,4 12 2026 0 660 660 660 11,866 11,206 25 2025 0 619 619 20,103 19,4 12 2028 0 660 660 660 11,866 11,206 27 2027 0 619 619 20,103 19,4 12 2032 0 660 660 660 11,866 11,206 23 2023 0 619 619 20,103 19,4 13 2033 0 660 660 660 11,866 11,206 31 2031 0 619 619 20,103 19,4 13 2033 0 660 660 660 11,866 11,206 31 2031 0 619 619 20,103 19,4 13 2034 0 660 660 660 11,866 11,206 31 2031 0 619 619 20,103 19,4 13 2035 0 660 660 660 660 11,866 11,206 31 2031 0 619 619 20,103 19,4 13 2035 0 660 660 660 11,866 11,206 31 2031 0 619 619 20,103 19,4 14 2041 0 0 0 0 0 0 0 0 0						•				_				19,484
16 2016 0 650 650 11,866 11,206 16 2016 0 619 619 20,103 19,417 2017 0 650 660 11,866 11,206 18 2018 0 619 619 20,103 19,418 2018 0 660 660 11,866 11,206 18 2018 0 619 619 20,103 19,418 2018 0 619 619 20,103 19,418 2018 0 619 619 20,103 19,418 2018 0 619 619 20,103 19,418 2018 0 619 619 20,103 19,418 2018 0 619 619 20,103 19,418 2018 0 619 619 20,103 19,418 2018 0 619 619 20,103 19,418 2018 0 619 619 20,103 19,418 2018 0 619 619 20,103 19,418 20							. *							
17 2017 0 660 660 11,866 11,206 17 2017 0 619 619 20,103 19,4													•	
18 2018 0 660 660 11,866 11,206 18 2018 0 619 619 20,103 19, 19 2019 0 660 660 11,866 11,206 20 2020 0 619 619 20,103 19, 21 2021 0 660 660 11,866 11,206 21 2021 0 619 619 20,103 19, 22 2022 0 660 660 11,866 11,206 22 2022 0 619 619 20,103 19, 22 2022 0 660 660 11,866 11,206 22 2022 0 619 619 20,103 19, 24 2024 0 660 660 11,866 11,206 23 2023 0 619 619 20,103 19, 24 2024 0 660 660 11,866 11,206 24 2024 0 619 619 20,103 19, 25 2025 0 660 660 11,866 11,206 25 2025 0 619 619 20,103 19, 26 2026 0 660 660 11,866 11,206 25 2025 0 619 619 20,103 19, 27 2027 0 660 660 660 11,866 11,206 27 2027 0 619 619 20,103 19, 27 2027 0 660 660 660 11,866 11,206 28 2028 0 619 619 20,103 19, 28 2028 0 660 660 11,866 11,206 29 2029 0 619 619 20,103 19, 29 2029 0 660 660 660 11,866 11,206 29 2029 0 619 619 20,103 19, 31 2031 0 660 660 11,866 11,206 31 2031 0 619 619 20,103 19, 31 2031 0 660 660 11,866 11,206 31 2031 0 619 619 20,103 19, 31 2031 0 660 660 11,866 11,206 31 2031 0 619 619 20,103 19, 31 2031 0 660 660 11,866 11,206 31 2031 0 619 619 20,103 19, 31 2031 0 660 660 11,866 11,206 31 2031 0 619 619 20,103 19, 31 32 32 32 32 32 32 32			_							-				19,484
19 2019 0 660 660 11,866 11,206 19 2019 0 619 619 20,103 19,													-	19,484
20 2020														19,484
2021						•								19,484
22 2022													•	19,484
23 2023													•	19,484
24 2024			-				•							19,481
25 2025		-	-						-					19,484
26 2026	25	2025	• •	660	660			25						19.481
27 2027	26	2026	0	660	660			26	2026					19,481
28 2028	27	2027	•	660	660			27	2027	0			•	19,484
39 2030	28	2028	0	660	660	11,866	11,206	28	2028	0 -	619	619	20,103	19,484
31 2031	29	2029	0	660	660	11,866	11,206	29	2029	0	619	619	20,103	19,484
32 2032	30	2030		660	660		11.206	30	2030	0	619	619	20,103	19,481
33 2033	31			660	660	11,866	11,206	31	2031	0	619	619	20,103	19,484
34 2034						11,866					619	619	20,103	19,484
35 2035											619	619	20,103	19,484
36 2036						-					619	619	20,103	19,484
37 2037 0 660 660 11,866 11,206 37 2037 0 619 619 20,103 19,						-	-							19,484
38 2038			-											19,484
39 2039 0 660 660 11,866 11,206 39 2039 0 619 619 20,103 19, 40 2040 0 660 660 660 11,866 11,206 40 2040 0 619 619 20,103 19, 41 2041 0 0 0 0 0 0 0 Total						•							-	19,481
Total 89,183 22,276 111,459 400,495 289,036 Total 83,517 21,364 104,881 693,830 588,70,995 EIRR (%) 12,37 Discount B*C NPV Rate (%) Cost Benefit Bs. 1,000 Rate (%) 15 0.84 41,035 34,532 -6,504 15 1.52 43,269 65,928 22,946 10 1.20 53,816 64,394 10,578 10 2.17 54,550 118,410 63,356 5 3.51 72,120 253,004 180,566 5 3.51 72,120 253,004 180,566 180,5				-									-	19,484
Total 89,183 22,276 111,459 400,495 289,036 Total 83,517 21,364 104,881 693,830 588,70,995 EIRR (%) 12,37 EIRR (%) 12,37 Discount B*C NPV Discount B*C NPV Rate (%) Cost Benefit Bs. 1,000) Rate (%) Cost Benefit Bs. 1,000 Rate (%) Cost Rate (%) Cost Rate (%) Cost Rate (%) Cost Rate (%) C										-				19,481
Total 89,183 22,276 111,459 400,495 289,036 Total 83,517 21,364 104,881 693,830 588,7095							-						•	19,484
Top First Top To	41	2041	0	. 0	0	. 0	. 0	41	2041	0	0	0	0	0
Discount B°C NPV Discount B°C NP	_	Tota		22,276	111,459	400,495	289,036		Total		21,364	104,881	693,830	588,949
Discount B°C NPV Discount B°C NP			10,995			EIRR (%)	12.37			81,794			E(RR (%)	23.45
15 0.84 41,035 34,532 -6,504 15 1.52 43,269 65,928 22,1 12 1.03 48,072 49,351 1,280 12 1.86 49,505 92,103 42,1 10 1.20 53,816 64,394 10,578 10 2.17 54,550 118,410 63,35 5 1.92 73,983 142,340 68,356 5 3.51 72,120 253,004 180,3			Discount	BC						Discount	BC			NPV
12 1.03 48,072 49,351 1,280 12 1.86 49,505 92,103 42, 10 1.20 53,816 64,394 10,578 10 2.17 54,550 118,410 63, 5 1.92 73,983 142,340 68,356 5 3.51 72,120 253,004 180,										Rate (%)		Cost	Benefit	Bs. 1,000
10 1.20 53,816 64,394 10,578 10 2.17 54,550 118,410 63,356 5 1.92 73,983 142,340 68,356 5 3.51 72,120 253,004 180,330											1.52	43,269	65,928	22,659
5 1.92 73,983 142,340 68,356 5 3.51 72,120 253,004 180,											1.86	49,505	92,103	42,599
, , , , ,							•							63,860
3 2.43 85,835 208,321 122,486 3 4.44 82,435 366,043 283,												-		180,884
			3	2.43	85,835	208,321	122,486			3	4,44	82,435	366,043	283,608

TABLE J.4.4 ECONOMIC ANALYSIS FOR SAN JUAN -ANTOFAGASTA PROJECT

No.	Year	Fcor	nomic Cos	Unit : Bs. Economic	(B)-(C)	
110.		Construction	OM		Benefit (B)	(2) (0)
				10.2.		
1	2001	3,879	0	3,879	0	-3,879
2	2002	19,516	31	19,547	847	-18,700
3	2003	15,986	175	16,161	4,756	-11,405
4	2004	11,401	295	11,696	7,928	-3,768
5	2005	20,451	380	20,831	10,108	-10,723
6	2006	19,220	53 Ï	19,751	14,244	-5,507
7	2007	25,331	675	26,006	17,746	-8,260
8	2008	28,239	864	29,103	21,898	-7,205
9	2009	•	1,073	24,652	26,700	2,048
10	2010	5,098	1,246	6,344	31,028	24,684
11	2011	0	1,279	1,279	31,969	30,690
12	2012	0	1,279	1,279	31,969	30,690
13	2013	0	1,279	1,279	31,969	30,690
14	2014		1,279	1,279	31,969	30,690
15	2015	0	1,279	1,279	31,969	30,690
16	2016	0	1,279	1,279	31,969	30,690
17	2017	0	1,279	1,279	31,969	30,690
18	2018	0	1,279	1,279	31,969	30,690
19	2019	0	1,279	1,279	31,969	30,690
20	2020	0	1,279	1,279	31,969	30,690
21	2021	0	1,279	1,279	31,969	30,690
22	2022		1,279	1,279	31,969	30,690
23	2023	0	1,279	1,279	31,969	30,690
24	2024	0	1,279	1,279	31,969	30,696
25	2025	0	1,279	1,279	31,969	30,696
26	2026	0	1,279	1,279	31,969	30,696
27	2027	0	1,279	1,279	31,969	30,690
28	2028	0	1,279	1,279	31,969	30,69
29	2029	0	1,279	1,279	31,969	30,69
30	2030	0	1,279	1,279	31,969	30,69
31	2031	. 0	1,279	1,279	31,969	30,69
32	2032	2 0	1,279	1,279	31,969	30,69
33	2033	0	1,279	1,279	31,969	30,69
34	2034	0	1,279	1,279	31,969	30,69
35	2035		1,279	1,279	31,969	30,69
36	2036	0	1,279	1,279	31,969	30,69
37	2037	7 0	1,279	1,279	31,969	30,69
38	2038	3 0	1,279	1,279	31,969	30,69
39	2039	0	1,279	1,279	31,969	30,69
40	2040	0	1,279	1,279	31,969	30,69
41	2041	0	0	0	0	·
	Tota	1 172,700	43,640	216,340	1,094,325	877,98

			EIRR (%)	18.18
Discount	B/C			NPV
Rate (%)		Cost	Benefit	(Bs. 1,000)
15	1.19	84,304	100,459	16,155
12	1.45	97,576	141,454	43,878
10	1.69	108,366	182,804	74,438
5	2.71	146,103	395,344	249,241
3	3.41	168,270	574,364	406,094