

## **6.8 EVALUACIÓN ECONÓMICA Y FINANCIERA**

Tabla 6.8.1 Evaluación Económica para el Caso A-0

Unit \$: x1000

Year	Construction Cost		O/M	Total Cost	Discount Rate	resent Value	
	River Faciliti	Dredging	Yearly Dredging				
1	0		2,434	2,434	1.00000000	2,434	2,434
2	0		2,434	2,434	0.82644628	2,011	4,445
3	0		2,434	2,434	0.75131480	1,828	6,273
4		0	2,434	2,434	0.68301346	1,662	7,935
5			2,434	2,434	0.62092132	1,511	9,446
6			2,434	2,434	0.56447393	1,374	10,820
7			2,434	2,434	0.51315812	1,249	12,069
8			2,434	2,434	0.46650738	1,135	13,204
9			2,434	2,434	0.42409762	1,032	14,236
10			2,434	2,434	0.38554329	938	15,175
11			2,434	2,434	0.35049390	853	16,028
12			2,434	2,434	0.31863082	775	16,803
13			2,434	2,434	0.28966438	705	17,508
14			2,434	2,434	0.26333125	641	18,149
15			2,434	2,434	0.23939205	583	18,731
16			2,434	2,434	0.21762914	530	19,261
17			2,434	2,434	0.19784467	481	19,742
18			2,434	2,434	0.17985879	438	20,180
19			2,434	2,434	0.16350799	398	20,578
20			2,434	2,434	0.14864363	362	20,940
21			2,434	2,434	0.13513057	329	21,269
22			2,434	2,434	0.12284597	299	21,568
23			2,434	2,434	0.11167816	272	21,839
24			2,434	2,434	0.10152560	247	22,087
25			2,434	2,434	0.09229600	225	22,311
26			2,434	2,434	0.08390545	204	22,515
27			2,434	2,434	0.07627768	186	22,701
28			2,434	2,434	0.06934335	169	22,870
29			2,434	2,434	0.06303941	153	23,023
30			2,434	2,434	0.05730855	139	23,163
Total	0	0	73,008	73,008			23,163

Tabla 6.8.2 Evaluación Económica para el Caso A-1

Unit \$: x1000

Year	Construction Cost		O/M	Total Cost	Discount Rate	resent Value	
	River Faciliti	Dredging	Yearly Dredging				
1	11,247		2,434	13,681	1.00000000	13,681	13,681
2	22,495		2,434	24,928	0.82644628	20,602	34,283
3	22,495		2,434	24,928	0.75131480	18,729	53,012
4		2,434	281	2,715	0.68301346	1,854	54,866
5		2,434	281	2,715	0.62092132	1,686	56,552
6			281	281	0.56447393	159	56,711
7			281	281	0.51315812	144	56,855
8			281	281	0.46650738	131	56,986
9			281	281	0.42409762	119	57,105
10			281	281	0.38554329	108	57,214
11			281	281	0.35049390	99	57,312
12			281	281	0.31863082	90	57,402
13			281	281	0.28966438	81	57,483
14			281	281	0.26333125	74	57,557
15			281	281	0.23939205	67	57,625
16			281	281	0.21762914	61	57,686
17			281	281	0.19784467	56	57,741
18			281	281	0.17985879	51	57,792
19			281	281	0.16350799	46	57,838
20			281	281	0.14864363	42	57,880
21			281	281	0.13513057	38	57,918
22			281	281	0.12284597	35	57,952
23			281	281	0.11167816	31	57,984
24			281	281	0.10152560	29	58,012
25			281	281	0.09229600	26	58,038
26			281	281	0.08390545	24	58,062
27			281	281	0.07627768	21	58,083
28			281	281	0.06934335	19	58,103
29			281	281	0.06303941	18	58,120
30			281	281	0.05730855	16	58,137
Total	56,237	4,867	14,893	75,997			58,137

Tabla 6.8.3 Evaluación Económica para el Caso B-0

Unit \$: x1000

Year	Construction Cost		O/M	Total Cost	Discount Rate	resent Value	
	River Faciliti	Dredging	Yearly Dredging				
1	0		9,173	9,173	1.00000000	9,173	9,173
2	0		9,173	9,173	0.82644628	7,581	16,754
3	0		9,173	9,173	0.75131480	6,892	23,645
4		0	9,173	9,173	0.68301346	6,265	29,910
5			9,173	9,173	0.62092132	5,696	35,606
6			9,173	9,173	0.56447393	5,178	40,784
7			9,173	9,173	0.51315812	4,707	45,491
8			9,173	9,173	0.46650738	4,279	49,770
9			9,173	9,173	0.42409762	3,890	53,660
10			9,173	9,173	0.38554329	3,537	57,197
11			9,173	9,173	0.35049390	3,215	60,412
12			9,173	9,173	0.31863082	2,923	63,335
13			9,173	9,173	0.28966438	2,657	65,992
14			9,173	9,173	0.26333125	2,415	68,407
15			9,173	9,173	0.23939205	2,196	70,603
16			9,173	9,173	0.21762914	1,996	72,599
17			9,173	9,173	0.19784467	1,815	74,414
18			9,173	9,173	0.17985879	1,650	76,064
19			9,173	9,173	0.16350799	1,500	77,564
20			9,173	9,173	0.14864363	1,363	78,927
21			9,173	9,173	0.13513057	1,240	80,167
22			9,173	9,173	0.12284597	1,127	81,293
23			9,173	9,173	0.11167816	1,024	82,318
24			9,173	9,173	0.10152560	931	83,249
25			9,173	9,173	0.09229600	847	84,096
26			9,173	9,173	0.08390545	770	84,865
27			9,173	9,173	0.07627768	700	85,565
28			9,173	9,173	0.06934335	636	86,201
29			9,173	9,173	0.06303941	578	86,779
30			9,173	9,173	0.05730855	526	87,305
Total	0	0	275,184	275,184			87,305

Tabla 6.8.4 Evaluación Económica para el Caso B-1

Unit \$: x1000

Year	Construction Cost		O/M	Total Cost	Discount Rate	resent Value	
	River Faciliti	Dredging	Yearly Dredging				
1	7,222		9,173	16,395	1.00000000	16,395	16,395
2	14,445		9,173	23,618	0.82644628	19,519	35,914
3	14,445		9,173	23,618	0.75131480	17,744	53,658
4		3,136	7,051	10,187	0.68301346	6,958	60,616
5			7,051	7,051	0.62092132	4,378	64,994
6			7,051	7,051	0.56447393	3,980	68,974
7			7,051	7,051	0.51315812	3,618	72,593
8			7,051	7,051	0.46650738	3,289	75,882
9			7,051	7,051	0.42409762	2,990	78,872
10			7,051	7,051	0.38554329	2,719	81,591
11			7,051	7,051	0.35049390	2,471	84,062
12			7,051	7,051	0.31863082	2,247	86,309
13			7,051	7,051	0.28966438	2,042	88,351
14			7,051	7,051	0.26333125	1,857	90,208
15			7,051	7,051	0.23939205	1,688	91,896
16			7,051	7,051	0.21762914	1,535	93,431
17			7,051	7,051	0.19784467	1,395	94,826
18			7,051	7,051	0.17985879	1,268	96,094
19			7,051	7,051	0.16350799	1,153	97,247
20			7,051	7,051	0.14864363	1,048	98,295
21			7,051	7,051	0.13513057	953	99,248
22			7,051	7,051	0.12284597	866	100,114
23			7,051	7,051	0.11167816	787	100,902
24			7,051	7,051	0.10152560	716	101,617
25			7,051	7,051	0.09229600	651	102,268
26			7,051	7,051	0.08390545	592	102,860
27			7,051	7,051	0.07627768	538	103,398
28			7,051	7,051	0.06934335	489	103,887
29			7,051	7,051	0.06303941	445	104,331
30			7,051	7,051	0.05730855	404	104,735
Total	36,112	3,136	217,900	257,147			104,735

Tabla 6.8.5 Evaluación Económica para el Caso B-2

Unit \$: x1000

Year	Construction Cost		O/M	Total Cost	Discount Rate	resent Value	
	River Faciliti	Dredging	Yearly Dredging				
1	11,638		9,173	20,811	1.00000000	20,811	20,811
2	23,276		9,173	32,449	0.82644628	26,817	47,628
3	23,276		9,173	32,449	0.75131480	24,379	72,007
4		5,920	525	6,445	0.68301346	4,402	76,409
5		5,920	525	6,445	0.62092132	4,002	80,411
6			525	525	0.56447393	296	80,707
7			525	525	0.51315812	269	80,977
8			525	525	0.46650738	245	81,222
9			525	525	0.42409762	223	81,444
10			525	525	0.38554329	202	81,647
11			525	525	0.35049390	184	81,831
12			525	525	0.31863082	167	81,998
13			525	525	0.28966438	152	82,150
14			525	525	0.26333125	138	82,288
15			525	525	0.23939205	126	82,414
16			525	525	0.21762914	114	82,528
17			525	525	0.19784467	104	82,632
18			525	525	0.17985879	94	82,726
19			525	525	0.16350799	86	82,812
20			525	525	0.14864363	78	82,890
21			525	525	0.13513057	71	82,961
22			525	525	0.12284597	64	83,026
23			525	525	0.11167816	59	83,084
24			525	525	0.10152560	53	83,138
25			525	525	0.09229600	48	83,186
26			525	525	0.08390545	44	83,230
27			525	525	0.07627768	40	83,270
28			525	525	0.06934335	36	83,306
29			525	525	0.06303941	33	83,340
30			525	525	0.05730855	30	83,370
Total	58,190	11,840	41,692	111,722			83,370

Tabla 6.8.6 Evaluación Económica para el Caso B-3

Unit \$: x1000

Year	Construction Cost		O/M	Total Cost	Discount Rate	resent Value	
	River Faciliti	Dredging	Yearly Dredging				
1	8,820		9,173	17,992	1.00000000	17,992	17,992
2	17,639		9,173	26,812	0.82644628	22,159	40,151
3	17,639		9,173	26,812	0.75131480	20,144	60,295
4		3,136	6,024	9,159	0.68301346	6,256	66,551
5			6,024	6,024	0.62092132	3,740	70,291
6			6,024	6,024	0.56447393	3,400	73,691
7			6,024	6,024	0.51315812	3,091	76,782
8			6,024	6,024	0.46650738	2,810	79,593
9			6,024	6,024	0.42409762	2,555	82,147
10			6,024	6,024	0.38554329	2,322	84,470
11			6,024	6,024	0.35049390	2,111	86,581
12			6,024	6,024	0.31863082	1,919	88,500
13			6,024	6,024	0.28966438	1,745	90,245
14			6,024	6,024	0.26333125	1,586	91,831
15			6,024	6,024	0.23939205	1,442	93,273
16			6,024	6,024	0.21762914	1,311	94,584
17			6,024	6,024	0.19784467	1,192	95,776
18			6,024	6,024	0.17985879	1,083	96,859
19			6,024	6,024	0.16350799	985	97,844
20			6,024	6,024	0.14864363	895	98,740
21			6,024	6,024	0.13513057	814	99,554
22			6,024	6,024	0.12284597	740	100,294
23			6,024	6,024	0.11167816	673	100,966
24			6,024	6,024	0.10152560	612	101,578
25			6,024	6,024	0.09229600	556	102,134
26			6,024	6,024	0.08390545	505	102,639
27			6,024	6,024	0.07627768	459	103,099
28			6,024	6,024	0.06934335	418	103,516
29			6,024	6,024	0.06303941	380	103,896
30			6,024	6,024	0.05730855	345	104,241
Total	44,098	3,136	190,158	237,391			104,241

Tabla 6.8.7 Evaluación Económica para el Caso B-4

Unit \$: x1000

Year	Construction Cost		O/M	Total Cost	Discount Rate	resent Value	
	River Faciliti	Dredging	Yearly Dredging				
1	13,834		9,173	23,007	1.00000000	23,007	23,007
2	27,668		9,173	36,841	0.82644628	30,447	53,454
3	27,668		9,173	36,841	0.75131480	27,679	81,133
4		5,920	9,719	15,639	0.68301346	10,681	91,815
5		5,920	9,719	15,639	0.62092132	9,710	101,525
6			9,719	9,719	0.56447393	5,486	107,011
7			9,719	9,719	0.51315812	4,987	111,998
8			9,719	9,719	0.46650738	4,534	116,532
9			9,719	9,719	0.42409762	4,122	120,653
10			9,719	9,719	0.38554329	3,747	124,400
11			9,719	9,719	0.35049390	3,406	127,807
12			9,719	9,719	0.31863082	3,097	130,903
13			9,719	9,719	0.28966438	2,815	133,718
14			9,719	9,719	0.26333125	2,559	136,278
15			9,719	9,719	0.23939205	2,327	138,604
16			9,719	9,719	0.21762914	2,115	140,719
17			9,719	9,719	0.19784467	1,923	142,642
18			9,719	9,719	0.17985879	1,748	144,390
19			9,719	9,719	0.16350799	1,589	145,979
20			9,719	9,719	0.14864363	1,445	147,424
21			9,719	9,719	0.13513057	1,313	148,737
22			9,719	9,719	0.12284597	1,194	149,931
23			9,719	9,719	0.11167816	1,085	151,016
24			9,719	9,719	0.10152560	987	152,003
25			9,719	9,719	0.09229600	897	152,900
26			9,719	9,719	0.08390545	815	153,715
27			9,719	9,719	0.07627768	741	154,456
28			9,719	9,719	0.06934335	674	155,130
29			9,719	9,719	0.06303941	613	155,743
30			9,719	9,719	0.05730855	557	156,300
Total	69,170	11,840	289,919	370,930			156,300

O/M=0.5% x Facility Cost

Tabla 6.8.8 Evaluación Económica para el Caso G-0  
 Economic Cost : Dredgingx0.9, Facilities x0.8

Unit \$: x1000

Year	Construction Cost		O/M	Total Cost	Discount Rate	resent Value	
	River Facilitie	Dredging	Yearly Dredging				
1	0		3,533	3,533	1.00000000	3,533	3,533
2	0		3,533	3,533	0.82644628	2,920	6,454
3	0		3,533	3,533	0.75131480	2,655	9,108
4		0	3,533	3,533	0.68301346	2,413	11,522
5			3,533	3,533	0.62092132	2,194	13,716
6			3,533	3,533	0.56447393	1,995	15,710
7			3,533	3,533	0.51315812	1,813	17,523
8			3,533	3,533	0.46650738	1,648	19,172
9			3,533	3,533	0.42409762	1,499	20,670
10			3,533	3,533	0.38554329	1,362	22,032
11			3,533	3,533	0.35049390	1,238	23,271
12			3,533	3,533	0.31863082	1,126	24,397
13			3,533	3,533	0.28966438	1,024	25,420
14			3,533	3,533	0.26333125	930	26,351
15			3,533	3,533	0.23939205	846	27,197
16			3,533	3,533	0.21762914	769	27,966
17			3,533	3,533	0.19784467	699	28,665
18			3,533	3,533	0.17985879	636	29,300
19			3,533	3,533	0.16350799	578	29,878
20			3,533	3,533	0.14864363	525	30,403
21			3,533	3,533	0.13513057	477	30,881
22			3,533	3,533	0.12284597	434	31,315
23			3,533	3,533	0.11167816	395	31,709
24			3,533	3,533	0.10152560	359	32,068
25			3,533	3,533	0.09229600	326	32,394
26			3,533	3,533	0.08390545	296	32,691
27			3,533	3,533	0.07627768	270	32,960
28			3,533	3,533	0.06934335	245	33,205
29			3,533	3,533	0.06303941	223	33,428
30			3,533	3,533	0.05730855	202	33,630
Total	0	0	106,002	106,002			33,630

Tabla 6.8.9 Evaluación Económica para el Caso G-1

Unit \$: x1000

Year	Construction Cost		O/M	Total Cost	Discount Rate	resent Value	
	River Faciliti	Dredging	Yearly Dredging				
1	7,269		3,533	10,802	1.00000000	10,802	10,802
2	14,537		3,533	18,071	0.82644628	14,934	25,736
3	14,537		3,533	18,071	0.75131480	13,577	39,313
4		5,616	182	5,798	0.68301346	3,960	43,273
5			182	182	0.62092132	113	43,386
6			182	182	0.56447393	103	43,489
7			182	182	0.51315812	93	43,582
8			182	182	0.46650738	85	43,667
9			182	182	0.42409762	77	43,744
10			182	182	0.38554329	70	43,814
11			182	182	0.35049390	64	43,877
12			182	182	0.31863082	58	43,935
13			182	182	0.28966438	53	43,988
14			182	182	0.26333125	48	44,036
15			182	182	0.23939205	44	44,079
16			182	182	0.21762914	40	44,119
17			182	182	0.19784467	36	44,155
18			182	182	0.17985879	33	44,187
19			182	182	0.16350799	30	44,217
20			182	182	0.14864363	27	44,244
21			182	182	0.13513057	25	44,269
22			182	182	0.12284597	22	44,291
23			182	182	0.11167816	20	44,311
24			182	182	0.10152560	18	44,330
25			182	182	0.09229600	17	44,347
26			182	182	0.08390545	15	44,362
27			182	182	0.07627768	14	44,376
28			182	182	0.06934335	13	44,388
29			182	182	0.06303941	11	44,400
30			182	182	0.05730855	10	44,410
Total	36,343	5,616	15,507	57,466			44,410

Tabla 6.8.10 Evaluación Económica para el Caso G-2

Unit \$: x1000

Year	Construction Cost		O/M	Total Cost	Discount Rate	resent Value	
	River Faciliti	Dredging	Yearly Dredging				
1	7,981		3,533	11,514	1.00000000	11,514	11,514
2	15,961		3,533	19,495	0.82644628	16,111	27,625
3	15,961		3,533	19,495	0.75131480	14,647	42,272
4			8,191	8,191	0.68301346	5,595	47,867
5			8,191	8,191	0.62092132	5,086	52,953
6			8,191	8,191	0.56447393	4,624	57,576
7			8,191	8,191	0.51315812	4,203	61,780
8			8,191	8,191	0.46650738	3,821	65,601
9			8,191	8,191	0.42409762	3,474	69,075
10			8,191	8,191	0.38554329	3,158	72,233
11			8,191	8,191	0.35049390	2,871	75,104
12			8,191	8,191	0.31863082	2,610	77,714
13			8,191	8,191	0.28966438	2,373	80,086
14			8,191	8,191	0.26333125	2,157	82,243
15			8,191	8,191	0.23939205	1,961	84,204
16			8,191	8,191	0.21762914	1,783	85,987
17			8,191	8,191	0.19784467	1,621	87,607
18			8,191	8,191	0.17985879	1,473	89,081
19			8,191	8,191	0.16350799	1,339	90,420
20			8,191	8,191	0.14864363	1,218	91,637
21			8,191	8,191	0.13513057	1,107	92,744
22			8,191	8,191	0.12284597	1,006	93,751
23			8,191	8,191	0.11167816	915	94,665
24			8,191	8,191	0.10152560	832	95,497
25			8,191	8,191	0.09229600	756	96,253
26			8,191	8,191	0.08390545	687	96,940
27			8,191	8,191	0.07627768	625	97,565
28			8,191	8,191	0.06934335	568	98,133
29			8,191	8,191	0.06303941	516	98,649
30			8,191	8,191	0.05730855	469	99,119
Total	39,903	0	231,760	271,664			99,119