

DAFTAR PUSTAKA

- Bintarto., 1968. *Beberapa Aspek Geografi*. Yogyakarta : Karya.
- BPS., 2017. *Kabupaten Banggai Dalam Angka 2017*. Kabupaten Banggai: Badan Pusat Statistik Kabupaten Banggai.
- Haris, A., 2003. *Kucuran Keringat dan Derap Pembangunan*. Yogyakarta : Pustaka Pelajar.
- Husnan, S., dan Suswono, M., 2000. *Studi Kelayakan Proyek*. Yogyakarta: UPP STIM YKPN.
- Hermawati., 2015. *Jurnal Analisis Kelayakan Finansial dan Ekonomi Terhadap Pelabuhan Sumba Tengah*. Jakarta : Konstruksia
- Indriyanto., 2005. *Ekologi Hutan*. Direktorat Jenderal Pendidikan Tinggi. Jakarta: Departemen Pendidikan Nasional.
- Kramadibrata, S., 1985. *Perencanaan Pelabuhan*. Bandung: Ganeca Exact Bandung.
- Tamin, O. Z., 2000. *Perencanaan dan Permodelan Transportasi*. Bandung, Indonesia: Penerbit ITB
- Triatmodjo, B., 1999. *Teknik pantai*. Yogyakarta: Beta Offset.
- Triatmodjo, B., 2003. *Pelabuhan*. Yogyakarta: Beta Offset.



Pemerintah No.69 Tahun 2001 tentang Kepelabuhanan.
pemerintah nomor 11 tahun 1983 tentang Pembinaan Kepelabuhanan.
tahun 2012 dibahas peraturan-peraturan tentang perpajakan dan cukai

LAMPIRAN



Tabel Lampiran 1.1. Perhitungan Penerimaan Kapal Barang Penumpang

No	Tahun	GT (ton)	(LOA + Clearance)	CALL	BT	Penerimaan/ call	Penerimaan/ Tahun
			(m)	(Unit)	(Jam)		
1	2018	682	58.93	98	7	Rp121.532	Rp11.910.175.20
2	2019	682	58.93	106	7	Rp121.532	Rp12.882.434.40
3	2020	682	58.93	115	7	Rp121.532	Rp13.976.226.00
4	2021	682	58.93	124	7	Rp121.532	Rp15.070.017.60
5	2022	682	58.93	132	7	Rp121.532	Rp16.042.276.80
6	2023	682	58.93	141	7	Rp121.532	Rp17.136.068.40
7	2024	682	58.93	149	7	Rp121.532	Rp18.108.327.60
8	2025	682	58.93	158	7	Rp121.532	Rp19.202.119.20
9	2026	682	58.93	166	7	Rp121.532	Rp20.174.378.40
10	2027	682	58.93	175	7	Rp121.532	Rp21.268.170.00
11	2028	682	58.93	183	7	Rp121.532	Rp22.240.429.20
12	2029	682	58.93	192	7	Rp121.532	Rp23.334.220.80
13	2030	682	58.93	200	7	Rp121.532	Rp24.306.480.00
14	2031	682	58.93	209	7	Rp121.532	Rp25.400.271.60
15	2032	682	58.93	217	7	Rp121.532	Rp26.372.530.80
16	2033	682	58.93	226	7	Rp121.532	Rp27.466.322.40
17	2034	682	58.93	234	7	Rp121.532	Rp28.438.581.60
18	2035	682	58.93	243	7	Rp121.532	Rp29.532.373.20
19	2036	682	58.93	251	7	Rp121.532	Rp30.504.632.40
20	2037	682	58.93	260	7	Rp121.532	Rp31.598.424.00
21	2038	682	58.93	268	7	Rp121.532	Rp32.570.683.20



Tabel Lampiran 1.2. Perhitungan Penerimaan Kapal Cepat

No	Tahun	GT (ton)	(LOA + Clearance) (m)	CALL (Unit)	BT (Jam)	Penerimaan/ call	Benefit/ Tahun
1	2018	121	31.15	68	1	Rp21.562	Rp1.466.230
2	2019	121	31.15	74	1	Rp21.562	Rp1.595.603
3	2020	121	31.15	80	1	Rp21.562	Rp1.724.976
4	2021	121	31.15	86	1	Rp21.562	Rp1.854.349
5	2022	121	31.15	93	1	Rp21.562	Rp2.005.285
6	2023	121	31.15	99	1	Rp21.562	Rp2.134.658
7	2024	121	31.15	105	1	Rp21.562	Rp2.264.031
8	2025	121	31.15	112	1	Rp21.562	Rp2.414.966
9	2026	121	31.15	118	1	Rp21.562	Rp2.544.340
10	2027	121	31.15	124	1	Rp21.562	Rp2.673.713
11	2028	121	31.15	131	1	Rp21.562	Rp2.824.648
12	2029	121	31.15	137	1	Rp21.562	Rp2.954.021
13	2030	121	31.15	143	1	Rp21.562	Rp3.083.395
14	2031	121	31.15	149	1	Rp21.562	Rp3.212.768
15	2032	121	31.15	156	1	Rp21.562	Rp3.363.703
16	2033	121	31.15	162	1	Rp21.562	Rp3.493.076
17	2034	121	31.15	168	1	Rp21.562	Rp3.622.450
18	2035	121	31.15	175	1	Rp21.562	Rp3.773.385
19	2036	121	31.15	181	1	Rp21.562	Rp3.902.758
20	2037	121	31.15	187	1	Rp21.562	Rp4.032.131
21	2038	121	31.15	193	1	Rp21.562	Rp4.161.505



Tabel Lampiran 1.3. Total Perhitungan Penerimaan Dari Jasa Pelayanan Kapal,
Ukuran Dan Jenis Kapal

No	Tahun	Benefit/Tahun	Benefit/Tahun	Total Benefit
		Kapal Barang/Penumpang	Kapal Cepat	
1	2018	Rp11.910.175	Rp1.466.230	Rp13.376.405
2	2019	Rp12.882.434	Rp1.595.603	Rp14.478.037
3	2020	Rp13.976.226	Rp1.724.976	Rp15.701.202
4	2021	Rp15.070.018	Rp1.854.349	Rp16.924.367
5	2022	Rp16.042.277	Rp2.005.285	Rp18.047.561
6	2023	Rp17.136.068	Rp2.134.658	Rp19.270.726
7	2024	Rp18.108.328	Rp2.264.031	Rp20.372.359
8	2025	Rp19.202.119	Rp2.414.966	Rp21.617.086
9	2026	Rp20.174.378	Rp2.544.340	Rp22.718.718
10	2027	Rp21.268.170	Rp2.673.713	Rp23.941.883
11	2028	Rp22.240.429	Rp2.824.648	Rp25.065.077
12	2029	Rp23.334.221	Rp2.954.021	Rp26.288.242
13	2030	Rp24.306.480	Rp3.083.395	Rp27.389.875
14	2031	Rp25.400.272	Rp3.212.768	Rp28.613.039
15	2032	Rp26.372.531	Rp3.363.703	Rp29.736.234
16	2033	Rp27.466.322	Rp3.493.076	Rp30.959.399
17	2034	Rp28.438.582	Rp3.622.450	Rp32.061.031
18	2035	Rp29.532.373	Rp3.773.385	Rp33.305.758
19	2036	Rp30.504.632	Rp3.902.758	Rp34.407.391
20	2037	Rp31.598.424	Rp4.032.131	Rp35.630.555
21	2038	Rp32.570.683	Rp4.161.505	Rp36.732.188



Tabel Lampiran 1.4. Penerimaan jasa pelayanan kapal

No	Tahun	Call Kapal Barang Penumpang	GT Kapal Barang Penumpang	BT (jam)	Call Kapal Cepat (unit)	GT Kapal Cepat (unit)	BT (jam)	Uang Labuh	Uang Tambat	Pengadaan Air	Total Jasa Pelayanan Kapal
1	2018	98	682	7	68	121	1	Rp6.407.463	Rp44.199.267	Rp33.200.000	Rp83.806.730
2	2019	106	682	7	183	121	1	Rp8.060.972	Rp49.036.881	Rp57.800.000	Rp114.897.853
3	2020	115	682	7	80	121	1	Rp7.521.070	Rp51.868.780	Rp39.000.000	Rp98.389.849
4	2021	124	682	7	86	121	1	Rp8.106.981	Rp55.925.145	Rp42.000.000	Rp106.032.126
5	2022	132	682	7	93	121	1	Rp8.645.005	Rp59.549.526	Rp45.000.000	Rp113.194.530
6	2023	141	682	7	99	121	1	Rp9.230.916	Rp63.605.891	Rp48.000.000	Rp120.836.807
7	2024	149	682	7	105	121	1	Rp9.758.611	Rp67.219.038	Rp50.800.000	Rp127.777.649
8	2025	158	682	7	112	121	1	Rp10.354.851	Rp71.286.637	Rp54.000.000	Rp135.641.488
9	2026	166	682	7	118	121	1	Rp10.882.546	Rp74.899.784	Rp56.800.000	Rp142.582.330
10	2027	175	682	7	124	121	1	Rp11.468.457	Rp78.956.149	Rp59.800.000	Rp150.224.607
11	2028	183	682	7	131	121	1	Rp12.006.482	Rp82.580.530	Rp62.800.000	Rp157.387.012
		192	682	7	137	121	1	Rp12.592.393	Rp86.636.895	Rp65.800.000	Rp165.029.288
		200	682	7	143	121	1	Rp13.120.088	Rp90.250.043	Rp68.600.000	Rp171.970.131
		209	682	7	149	121	1	Rp13.705.999	Rp94.306.408	Rp71.600.000	Rp179.612.407
		217	682	7	156	121	1	Rp14.244.023	Rp97.930.789	Rp74.600.000	Rp186.774.812



16	2033	226	682	7	162	121	1	Rp14.829.934	Rp101.987.154	Rp77.600.000	Rp194.417.088
17	2034	234	682	7	168	121	1	Rp15.357.630	Rp105.600.301	Rp80.400.000	Rp201.357.931
18	2035	243	682	7	175	121	1	Rp15.953.869	Rp109.667.900	Rp83.600.000	Rp209.221.769
19	2036	251	682	7	181	121	1	Rp16.481.565	Rp113.281.047	Rp86.400.000	Rp216.162.612
20	2037	260	682	7	187	121	1	Rp17.067.476	Rp117.337.412	Rp89.400.000	Rp223.804.888
21	2038	268	682	7	193	121	1	Rp17.595.171	Rp120.950.559	Rp92.200.000	Rp230.745.731



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Tabel 1.5. Penerimaan jasa pelayanan barang

No	Tahun	Total	Langsung	Gudang	BT (Jam)	Uang Dermaga	Gudang Tertutup	Gudang Terbuka	TOTAL
		100% (Ton)	70% (Ton)	30% (Ton)					
1	2018	8.652	6.057	2.596	7	Rp12.978.273	Rp9.084.791	Rp1.271.871	Rp23.334.934
2	2019	9.909	6.936	2.973	7	Rp14.863.489	Rp10.404.442	Rp1.456.622	Rp26.724.554
3	2020	11.166	7.816	3.350	7	Rp16.748.706	Rp11.724.094	Rp1.641.373	Rp30.114.173
4	2021	12.423	8.696	3.727	7	Rp18.633.922	Rp13.043.746	Rp1.826.124	Rp33.503.792
5	2022	13.679	9.576	4.104	7	Rp20.519.139	Rp14.363.397	Rp2.010.876	Rp36.893.412
6	2023	14.936	10.455	4.481	7	Rp22.404.355	Rp15.683.049	Rp2.195.627	Rp40.283.031
7	2024	16.193	11.335	4.858	7	Rp24.289.572	Rp17.002.700	Rp2.380.378	Rp43.672.650
8	2025	17.450	12.215	5.235	7	Rp26.174.788	Rp18.322.352	Rp2.565.129	Rp47.062.269
9	2026	18.707	13.095	5.612	7	Rp28.060.005	Rp19.642.003	Rp2.749.880	Rp50.451.889
10	2027	19.963	13.974	5.989	7	Rp29.945.221	Rp20.961.655	Rp2.934.632	Rp53.841.508
11	2028	21.220	14.854	6.366	7	Rp31.830.438	Rp22.281.307	Rp3.119.383	Rp57.231.127
12	2029	22.477	15.734	6.743	7	Rp33.715.654	Rp23.600.958	Rp3.304.134	Rp60.620.747
13	2030	23.734	16.614	7.120	7	Rp35.600.871	Rp24.920.610	Rp3.488.885	Rp64.010.366
14	2031	24.991	17.494	7.497	7	Rp37.486.087	Rp26.240.261	Rp3.673.637	Rp67.399.985
	2032	26.248	18.373	7.874	7	Rp39.371.304	Rp27.559.913	Rp3.858.388	Rp70.789.605
	2033	27.504	19.253	8.251	7	Rp41.256.520	Rp28.879.564	Rp4.043.139	Rp74.179.224



No	Tahun	Total	Langsung	Gudang	BT (Jam)	Uang Dermaga	Gudang Tertutup	Gudang Terbuka	TOTAL
		100% (Ton)	70% (Ton)	30% (Ton)					
17	2034	28.761	20.133	8.628	7	Rp43.141.737	Rp30.199.216	Rp4.227.890	Rp77.568.843
18	2035	30.018	21.013	9.005	7	Rp45.026.954	Rp31.518.867	Rp4.412.641	Rp80.958.462
19	2036	31.275	21.892	9.382	7	Rp46.912.170	Rp32.838.519	Rp4.597.393	Rp84.348.082
20	2037	32.532	22.772	9.759	7	Rp48.797.387	Rp34.158.171	Rp4.782.144	Rp87.737.701
21	2038	33.788	23.652	10.137	7	Rp50.682.603	Rp35.477.822	Rp4.966.895	Rp91.127.320



4. Penerimaan Sewa Peralatan

No	Tahun	Jam Kerja forklit (jam)	Penerimaan sewa Peralatan
1	2018	0	Rp -
2	2019	0	Rp -
3	2020	0	Rp -
4	2021	0	Rp -
5	2022	0	Rp -
6	2023	0	Rp -
7	2024	0	Rp -
8	2025	0	Rp -
9	2026	0	Rp -
10	2027	0	Rp -
11	2028	0	Rp -
12	2029	0	Rp -
13	2030	0	Rp -
14	2031	0	Rp -
15	2032	0	Rp -
	2033	0	Rp -
	2034	0	Rp -

5. Penerimaan Sewa Tanah Dan Bangunan

No	Tahun	Biaya sewa Tanah Dan bangunan
1	2018	Rp 500.000.000
2	2019	Rp 500.000.000
3	2020	Rp 500.000.000
4	2021	Rp 550.000.000
5	2022	Rp 550.000.000
6	2023	Rp 550.000.000
7	2024	Rp 605.000.000
8	2025	Rp 605.000.000
9	2026	Rp 605.000.000
10	2027	Rp 665.500.000
11	2028	Rp 665.500.000
12	2029	Rp 665.500.000
13	2030	Rp 732.050.000
14	2031	Rp 732.050.000
15	2032	Rp 732.050.000
16	2033	Rp 805.255.000
17	2034	Rp 805.255.000

6. Penerimaan Sewa Stavedoorring

No	Tahun	penerimaan stavedoorring
1	2018	
2	2019	
3	2020	
4	2021	
5	2022	
6	2023	
7	2024	
8	2025	
9	2026	
10	2027	
11	2028	
12	2029	
13	2030	
14	2031	
15	2032	
16	2033	
17	2034	



4. Penerimaan Sewa Peralatan

No	Tahun	Jam Kerja forklit (jam)	Penerimaan sewa Peralatan
18	2035	0	Rp -
19	2036	0	Rp -
20	2037	0	Rp -
21	2038	0	Rp -

5. Penerimaan Sewa Tanah Dan Bangunan

No	Tahun	Biaya sewa Tanah Dan bangunan
18	2035	Rp 805.255.000
19	2036	Rp 885.780.500
20	2037	Rp 885.780.500
21	2038	Rp 885.780.500

6. Penerimaan Sewa Stavedoorring

No	Tahun	penerimaan stavedoorring
18	2035	
19	2036	
20	2037	
21	2038	



Retribusi terminal penumpang = 2000

8. Penerimaan Terminal Penumpang

No	Tahun	Jumlah Penumpang	Penerimaan Jasa Terminal
1	2018	157.956	Rp 315.911.449
2	2019	171.497	Rp 342.994.362
3	2020	185.039	Rp 370.077.276
4	2021	198.580	Rp 397.160.189
5	2022	212.122	Rp 424.243.102
6	2023	225.663	Rp 451.326.015
7	2024	239.204	Rp 478.408.929
8	2025	252.746	Rp 505.491.842
9	2026	266.287	Rp 532.574.755
10	2027	279.829	Rp 559.657.668
11	2028	293.370	Rp 586.740.582
12	2029	306.912	Rp 613.823.495
13	2030	320.453	Rp 640.906.408
14	2031	333.995	Rp 667.989.321
15	2032	347.536	Rp 695.072.234
16	2033	361.078	Rp 722.155.148

Penumpang = 5000

9. Penerimaan Pas Pelabuhan

Pengantar = 2000

No	Tahun	Jumlah Penumpang Naik	Jumlah Penumpang Turun	Pengantar (50%)	Penerimaan Jasa Terminal
1	2018	68.912	89.044	78.978	Rp 502.514.670
2	2019	72.910	98.587	85.749	Rp 536.047.124
3	2020	76.908	108.130	92.519	Rp 569.579.578
4	2021	80.906	117.674	99.290	Rp 603.112.032
5	2022	84.905	127.217	106.061	Rp 636.644.486
6	2023	88.903	136.760	112.832	Rp 670.176.940
7	2024	92.901	146.303	119.602	Rp 703.709.394
8	2025	96.899	155.847	126.373	Rp 737.241.848
9	2026	100.897	165.390	133.144	Rp 770.774.302
10	2027	104.896	174.933	139.914	Rp 804.306.756
11	2028	108.894	184.477	146.685	Rp 837.839.211
12	2029	112.892	194.020	153.456	Rp 871.371.665
13	2030	116.890	203.563	160.227	Rp 904.904.119
14	2031	120.888	213.106	166.997	Rp 938.436.573
15	2032	124.887	222.650	173.768	Rp 971.969.027
16	2033	128.885	232.193	180.539	Rp 1.005.501.481



Retribusi terminal penumpang = 2000

8. Penerimaan Terminal Penumpang

No	Tahun	Jumlah Penumpang	Penerimaan Jasa Terminal
17	2034	374.619	Rp 749.238.061
18	2035	388.160	Rp 776.320.974
19	2036	401.702	Rp 803.403.887
20	2037	415.243	Rp 830.486.801
21	2038	428.785	Rp 857.569.714

Penumpang = 5000

9. Penerimaan Pas Pelabuhan

Pengantar = 2000

No	Tahun	Jumlah Penumpang Naik	Jumlah Penumpang Turun	Pengantar (50%)	Penerimaan Jasa Terminal
17	2034	132.883	241.736	187.310	Rp 1.039.033.935
18	2035	136.881	251.279	194.080	Rp 1.072.566.389
19	2036	140.879	260.823	200.851	Rp 1.106.098.843
20	2037	144.878	270.366	207.622	Rp 1.139.631.297
21	2038	148.876	279.909	214.392	Rp 1.173.163.752



10. Penerimaan Dari Dermaga Khusus

No	Tahun	Biaya sewa 25% dari biaya pandu Derum
1	2018	
2	2019	
3	2020	
4	2021	
5	2022	
6	2023	
7	2024	
8	2025	
9	2026	
10	2027	
11	2028	
12	2029	
13	2030	
14	2031	
15	2032	
16	2033	
17	2034	

11. Penerimaan Lain lain

No	Tahun	Penerimaan Lain lain	rerata pertumbuhan
1	2018	Rp 250.000.000	10%
2	2019	Rp 275.000.000	
3	2020	Rp 302.500.000	
4	2021	Rp 332.750.000	
5	2022	Rp 366.025.000	
6	2023	Rp 402.627.500	
7	2024	Rp 442.890.250	
8	2025	Rp 487.179.275	
9	2026	Rp 535.897.203	
10	2027	Rp 589.486.923	
11	2028	Rp 648.435.615	
12	2029	Rp 713.279.177	
13	2030	Rp 784.607.094	
14	2031	Rp 863.067.804	
15	2032	Rp 949.374.584	
16	2033	Rp1.044.312.042	
17	2034	Rp1.148.743.247	



10. Penerimaan Dari dermaga Khusus

No	Tahun	Biaya sewa 25% dari biaya pandu Derum
18	2035	
19	2036	
20	2037	
21	2038	

11. Penerimaan Lain lain

No	Tahun	Penerimaan Lain lain	rerata pertumbuhan
18	2035	Rp1.263.617.571	
19	2036	Rp1.389.979.328	
20	2037	Rp1.528.977.261	
21	2038	Rp1.681.874.987	



Tahun	Penerimaan			Penerimaan			
	Pelayanan Kapal	Pelayanan Barang	Tanah & bangunan	Terminal Penumpang	Pas Pelabuhan	lain-lain	Total
2018	Rp83.806.730	Rp23.334.934	Rp500.000.000	Rp315.911.449	Rp502.514.670	Rp250.000.000	Rp1.675.567.783
2019	Rp114.897.853	Rp26.724.554	Rp500.000.000	Rp342.994.362	Rp536.047.124	Rp275.000.000	Rp1.795.663.892
2020	Rp98.389.849	Rp30.114.173	Rp500.000.000	Rp370.077.276	Rp569.579.578	Rp302.500.000	Rp1.870.660.876
2021	Rp106.032.126	Rp33.503.792	Rp550.000.000	Rp397.160.189	Rp603.112.032	Rp332.750.000	Rp2.022.558.138
2022	Rp113.194.530	Rp36.893.412	Rp550.000.000	Rp424.243.102	Rp636.644.486	Rp366.025.000	Rp2.127.000.530
2023	Rp120.836.807	Rp40.283.031	Rp550.000.000	Rp451.326.015	Rp670.176.940	Rp402.627.500	Rp2.235.250.293
2024	Rp127.777.649	Rp43.672.650	Rp605.000.000	Rp478.408.929	Rp703.709.394	Rp442.890.250	Rp2.401.458.872
2025	Rp135.641.488	Rp47.062.269	Rp605.000.000	Rp505.491.842	Rp737.241.848	Rp487.179.275	Rp2.517.616.722
2026	Rp142.582.330	Rp50.451.889	Rp605.000.000	Rp532.574.755	Rp770.774.302	Rp535.897.203	Rp2.637.280.479
2027	Rp150.224.607	Rp53.841.508	Rp665.500.000	Rp559.657.668	Rp804.306.756	Rp589.486.923	Rp2.823.017.462
2028	Rp157.387.012	Rp57.231.127	Rp665.500.000	Rp586.740.582	Rp837.839.211	Rp648.435.615	Rp2.953.133.546
2029	Rp165.029.288	Rp60.620.747	Rp665.500.000	Rp613.823.495	Rp871.371.665	Rp713.279.177	Rp3.089.624.371
2030	Rp171.970.131	Rp64.010.366	Rp732.050.000	Rp640.906.408	Rp904.904.119	Rp784.607.094	Rp3.298.448.117
2031	Rp179.612.407	Rp67.399.985	Rp732.050.000	Rp667.989.321	Rp938.436.573	Rp863.067.804	Rp3.448.556.090
2032	Rp186.774.812	Rp70.789.605	Rp732.050.000	Rp695.072.234	Rp971.969.027	Rp949.374.584	Rp3.606.030.262
2033	Rp194.417.088	Rp74.179.224	Rp805.255.000	Rp722.155.148	Rp1.005.501.481	Rp1.044.312.042	Rp3.845.819.983
	Rp201.357.931	Rp77.568.843	Rp805.255.000	Rp749.238.061	Rp1.039.033.935	Rp1.148.743.247	Rp4.021.197.017
	Rp209.221.769	Rp80.958.462	Rp805.255.000	Rp776.320.974	Rp1.072.566.389	Rp1.263.617.571	Rp4.207.940.166



Tahun	Penerimaan			Penerimaan			
	Pelayanan Kapal	Pelayananan Barang	Tanah & bangunan	Terminal Penumpang	Pas Pelabuhan	lain-lain	Total
2036	Rp216.162.612	Rp84.348.082	Rp885.780.500	Rp803.403.887	Rp1.106.098.843	Rp1.389.979.328	Rp4.485.773.253
2037	Rp223.804.888	Rp87.737.701	Rp885.780.500	Rp830.486.801	Rp1.139.631.297	Rp1.528.977.261	Rp4.696.418.449
2038	Rp230.745.731	Rp91.127.320	Rp885.780.500	Rp857.569.714	Rp1.173.163.752	Rp1.681.874.987	Rp4.920.262.004



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Tahun Ke	Tahun	Investasi	O&M	Total Cost (Rp)	Total Manfaat (Rp)	Disc Fac 7%	PVC (Rp)	PVB 7% (Rp)	Net Benefit 7%
0	2018	36.394.000.000	36.394.000	36.430.394.000	9.074.463.892	1.000	36.430.394.000	9.074.463.892	-27.355.930.108
1	2019	0	36.394.000	36.394.000	1.870.660.876	0.935	34.013.084	1.748.281.192	1.714.268.108
2	2020	0	36.394.000	36.394.000	2.022.558.138	0.873	31.787.929	1.766.580.608	1.734.792.679
3	2021	0	36.394.000	36.394.000	2.127.000.530	0.816	29.708.345	1.736.266.017	1.706.557.672
4	2022	0	36.394.000	36.394.000	2.235.250.293	0.763	27.764.808	1.705.261.746	1.677.496.938
5	2023	0	36.394.000	36.394.000	2.401.458.872	0.713	25.948.419	1.712.206.986	1.686.258.567
6	2024	0	36.394.000	36.394.000	2.517.616.722	0.666	24.250.859	1.677.594.325	1.653.343.467
7	2025	0	36.394.000	36.394.000	2.637.280.479	0.623	22.664.354	1.642.365.738	1.619.701.384
8	2026	0	36.394.000	36.394.000	2.823.017.462	0.582	21.181.639	1.643.021.865	1.621.840.226
9	2027	0	36.394.000	36.394.000	2.953.133.546	0.544	19.795.925	1.606.308.982	1.586.513.057
10	2028	0	36.394.000	36.394.000	3.089.624.371	0.508	18.500.864	1.570.608.362	1.552.107.498
11	2029	0	36.394.000	36.394.000	3.298.448.117	0.475	17.290.527	1.567.068.940	1.549.778.413
12	2030	0	36.394.000	36.394.000	3.448.556.090	0.444	16.159.371	1.531.200.146	1.515.040.775
13	2031	0	36.394.000	36.394.000	3.606.030.262	0.415	15.102.216	1.496.374.357	1.481.272.140
14	2032	0	36.394.000	36.394.000	3.845.819.983	0.388	14.114.221	1.491.475.295	1.477.361.075
15	2033	0	36.394.000	36.394.000	4.021.197.017	0.362	13.190.860	1.457.466.853	1.444.275.992
	2034	0	36.394.000	36.394.000	4.207.940.166	0.339	12.327.907	1.425.374.920	1.413.047.013
	2035	0	36.394.000	36.394.000	4.485.773.253	0.317	11.521.408	1.420.080.933	1.408.559.525



Tahun Ke	Tahun	Investasi	O&M	Total Cost (Rp)	Total Manfaat (Rp)	Disc Fac 7%	PVC (Rp)	PVB 7% (Rp)	Net Benefit 7%
18	2036	0	36.394.000	36.394.000	4.696.418.449	0.296	10.767.671	1.389.500.755	1.378.733.084
19	2037	0	36.394.000	36.394.000	4.920.262.004	0.277	10.063.244	1.360.493.445	1.350.430.200
20	2038	0	36.394.000	36.394.000	4.920.262.004	0.258	9.404.210	1.271.395.702	1.261.991.492
NPV =									2.215.447.705
B/C =									1.060191674
IRR =									8.63%



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