

Appendix

Appendix - A

Estimated Management Cost of Proposed Projects and Programs

Table A.1(1) Estimated Management Cost of Proposed Projects and Programs

		Short Term				Middle Term					Long Term					Total
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
MS Coastal Spatial Use Management																
MS-1 Formulation of Provincial and Municipal/Regent Coastal Spatial Use Plans	Initial Cost	790.0	0.0	0.0	0.0	0.0	510.0	0.0	0.0	0.0	0.0	510.0	0.0	0.0	0.0	1,810.0
	O/M Cost	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
	Total Cost	790.0	0.0	0.0	0.0	0.0	510.0	0.0	0.0	0.0	0.0	510.0	0.0	0.0	0.0	1,810.0
MS-2 Establishment of Coastal Development Permission System/Improvement of Criteria for Business and Building Permissions in the Coastal Area	Initial Cost	0.0	101.0	101.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	202.0
	O/M Cost	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
	Total Cost	0.0	101.0	101.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	202.0
Sub Total	Initial Cost	790.0	101.0	101.0	0.0	0.0	510.0	0.0	0.0	0.0	0.0	510.0	0.0	0.0	0.0	2,012.0
	O/M Cost	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
	Total Cost	790.0	101.0	101.0	0.0	0.0	510.0	0.0	0.0	0.0	0.0	510.0	0.0	0.0	0.0	2,012.0
MR Coastal Resources Use Management																
MR-1 Establishment of Community Coastal Resources	Initial Cost	960.0	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	960.0
	O/M Cost	0.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	6,110.0
	Total Cost	960.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	7,070.0
MR-2 Supporting Program for Community Based Coastal Management (Formulation of Mangrove Committee and	Initial Cost	0.0	1,358.0	2,506.0	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,508.4	44,962.4
	O/M Cost	0.0	835.0	1,670.0	2,505.0	2,505.0	2,505.0	2,505.0	2,505.0	2,505.0	2,505.0	2,505.0	2,505.0	2,505.0	2,338.0	29,893.0
	Total Cost	0.0	2,193.0	4,176.0	6,264.0	6,264.0	6,264.0	6,264.0	6,264.0	6,264.0	6,264.0	6,264.0	6,264.0	6,264.0	5,846.4	74,855.4
MR-3 Establishment of Coastal Fisheries Management	Initial Cost	0.0	0.0	1,246.5	1,246.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,493.0
	O/M Cost	0.0	0.0	0.0	0.0	425.3	425.3	425.3	425.3	425.3	676.1	676.1	676.1	676.1	676.1	5,507.0
	Total Cost	0.0	0.0	1,246.5	1,246.5	425.3	425.3	425.3	425.3	425.3	676.1	676.1	676.1	676.1	676.1	8,000.0
MR-4 Installation of Community Artificial Reefs and Other	Initial Cost	104.0	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	104.0
	O/M Cost	0.0	124.0	124.0	124.0	223.0	223.0	223.0	223.0	223.0	0.0	0.0	0.0	0.0	0.0	1,487.0
	Total Cost	104.0	124.0	124.0	124.0	223.0	223.0	223.0	223.0	223.0	0.0	0.0	0.0	0.0	0.0	1,591.0
MR-5 Community Production Mangrove Forest	Initial Cost	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
	O/M Cost	0.0	0.0	0.0	0.0	190.0	190.0	190.0	190.0	190.0	0.0	0.0	0.0	0.0	0.0	950.0
	Total Cost	0.0	0.0	0.0	0.0	190.0	190.0	190.0	190.0	190.0	0.0	0.0	0.0	0.0	0.0	950.0
MR-6 Stop Dynamite Fishing and Coral Mining (Promotion for alternative materials for septic tank without Coral Rock)	Initial Cost	127.0	81.0	81.0	81.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	370.0
	O/M Cost	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
	Total Cost	127.0	81.0	81.0	81.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	370.0
MR-7 Program on Fishery Resources Monitoring	Initial Cost	340.0	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	340.0
	O/M Cost	0.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	7,150.0
	Total Cost	340.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	550.0	7,490.0
MR-8 Publication of White Paper for Coastal Resources	Initial Cost	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
	O/M Cost	0.0	110.0	0.0	0.0	110.0	0.0	0.0	110.0	0.0	0.0	110.0	0.0	0.0	0.0	440.0
	Total Cost	0.0	110.0	0.0	0.0	110.0	0.0	0.0	110.0	0.0	0.0	110.0	0.0	0.0	0.0	440.0
Sub Total	Initial Cost	1,531.0	1,439.0	3,833.5	5,086.5	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,759.0	3,508.4	49,229.4
	O/M Cost	0.0	2,089.0	2,814.0	3,849.0	4,473.3	4,363.3	4,363.3	4,473.3	4,363.3	4,201.1	4,311.1	4,201.1	4,201.1	4,034.1	51,537.0
	Total Cost	1,531.0	3,528.0	6,647.5	8,935.5	8,232.3	8,122.3	8,122.3	8,232.3	8,122.3	7,960.1	8,070.1	7,960.1	7,960.1	7,542.5	100,766.4
MU Urban Environmental Management																
MU-1 Program on water pollution control in Manado	Initial Cost	0.0	133.3	133.3	133.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	400.0
	O/M Cost	0.0	0.0	0.0	0.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	150.0
	Total Cost	0.0	133.3	133.3	133.3	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	550.0
MU-2 Program on water pollution control in Bitung	Initial Cost	0.0	121.7	121.7	121.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	365.0
	O/M Cost	0.0	0.0	0.0	0.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	100.0
	Total Cost	0.0	121.7	121.7	121.7	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	465.0
MU-3 Program on Solid Waste Collection System in the Coastal Areas in Manado	Initial Cost	0.0	156.7	156.7	156.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	470.0
	O/M Cost	0.0	0.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	420.0
	Total Cost	0.0	156.7	191.7	191.7	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	890.0

Table A.1(2) Estimated Management Cost of Proposed Projects and Programs

		Short Term					Middle Term				Long Term						Total
		2002 1	2003 2	2004 3	2005 4	2006 5	2007 6	2008 7	2009 8	2010 9	2011 10	2012 11	2013 12	2014 13	2015 14		
MU-4 Program on Solid Waste Collection System in the Coastal Areas in Bitung	Initial Cost	0.0	141.7	141.7	141.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	425.0	
	O/M Cost	0.0	0.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	420.0	
	Total Cost	0.0	141.7	176.7	176.7	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	845.0	
MU-5 Formulation and implementation of beautification programs for the coastal areas of Manado	Initial Cost	0.0	0.0	0.0	277.5	277.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	555.0	
	O/M Cost	0.0	0.0	0.0	0.0	0.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	630.0	
	Total Cost	0.0	0.0	0.0	277.5	277.5	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	1,185.0	
MU-6 Formulation and implementation of beautification programs for the coastal areas of Bitung	Initial Cost	0.0	0.0	0.0	277.5	277.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	555.0	
	O/M Cost	0.0	0.0	0.0	0.0	0.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	630.0	
	Total Cost	0.0	0.0	0.0	277.5	277.5	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	1,185.0	
Sub Total	Initial Cost	0.0	553.3	553.3	1,108.3	555.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,770.0	
	O/M Cost	0.0	0.0	70.0	70.0	95.0	235.0	235.0	235.0	235.0	235.0	235.0	235.0	235.0	235.0	2,350.0	
	Total Cost	0.0	553.3	623.3	1,178.3	650.0	235.0	235.0	235.0	235.0	235.0	235.0	235.0	235.0	235.0	5,120.0	
MW Watershed Management																	
MW-1 Protection of Soil Erosion for Cerat Reef	Initial Cost	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	
	O/M Cost	0.0	0.0	0.0	0.0	2,356.0	2,356.0	2,356.0	2,356.0	2,356.0	0.0	0.0	0.0	0.0	0.0	11,780.0	
	Total Cost	0.0	0.0	0.0	0.0	2,356.0	2,356.0	2,356.0	2,356.0	2,356.0	0.0	0.0	0.0	0.0	0.0	11,780.0	
MW-2 Formulation of Water Pollution Control Plan for Rural Coastal Villages	Initial Cost	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	
	O/M Cost	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	
	Total Cost	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	
Sub Total	Initial Cost	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	
	O/M Cost	0.0	0.0	0.0	0.0	2,356.0	2,356.0	2,356.0	2,356.0	2,356.0	0.0	0.0	0.0	0.0	0.0	11,780.0	
	Total Cost	0.0	0.0	0.0	0.0	2,456.0	2,356.0	2,356.0	2,356.0	2,356.0	0.0	0.0	0.0	0.0	0.0	11,880.0	
ME Coastal Ecosystem and Marine Wildlife Conservation Management																	
ME-1 Program on Coastal Environmental Monitoring	Initial Cost	1,270.0	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	1,270.0	
	O/M Cost	0.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	9,750.0	
	Total Cost	1,270.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	11,020.0	
ME-2 Patrol of Illegal Activities for Coastal Environmental Conservation	Initial Cost	1,940.0	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	1,940.0	
	O/M Cost	0.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	8,450.0	
	Total Cost	1,940.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	10,390.0	
ME-3 Establishment of Provincial Lembah Protected Areas	Initial Cost	0.0	0.0	1,860.0	1,860.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,720.0	
	O/M Cost	0.0	0.0	0.0	0.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	4,700.0	
	Total Cost	0.0	0.0	1,860.0	1,860.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	470.0	8,420.0	
ME-4 Establishment of Provincial Belang - Kotabunan Protected Area	Initial Cost	0.0	0.0	1,830.0	1,830.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,660.0	
	O/M Cost	0.0	0.0	0.0	0.0	460.0	460.0	460.0	460.0	460.0	460.0	460.0	460.0	460.0	460.0	4,600.0	
	Total Cost	0.0	0.0	1,830.0	1,830.0	460.0	460.0	460.0	460.0	460.0	460.0	460.0	460.0	460.0	460.0	8,260.0	
Sub Total	Initial Cost	3,210.0	0.0	3,690.0	3,690.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10,590.0	
	O/M Cost	0.0	1,400.0	1,400.0	1,400.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	27,500.0	
	Total Cost	3,210.0	1,400.0	5,090.0	5,090.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	2,330.0	38,090.0	
SL Institutions and Legislation																	
SL-1 Establishment of Provincial Coastal Management Basic Regulation	Initial Cost	120.0	120.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	240.0	
	O/M Cost	0.0	0.0	25.0	25.0	75.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	225.0	
	Total Cost	120.0	120.0	25.0	25.0	75.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	465.0	
SL-2 Establishment of Provincial Integrated Coastal Management Office (PICMO)	Initial Cost	65.0	65.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	130.0	
	O/M Cost	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	
	Total Cost	65.0	65.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	130.0	

Table A.1(3) Estimated Management Cost of Proposed Projects and Programs

		Short Term				Middle Term					Long Term					Total
		2002 1	2003 2	2004 3	2005 4	2006 5	2007 6	2008 7	2009 8	2010 9	2011 10	2012 11	2013 12	2014 13	2015 14	
SL-3 Establishment of Municipal and Regent Integrated Coastal Management Office (KICMO)	Initial Cost	0.0	0.0	520.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	520.0
	O/M Cost	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
	Total Cost	0.0	0.0	520.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	520.0
Sub Total		185.0	185.0	520.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	890.0
		O/M Cost	0.0	0.0	25.0	25.0	75.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	225.0
		Total Cost	185.0	185.0	545.0	25.0	75.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	1,115.0
SI Coastal Information System																
SI-1 Establishment of Coastal Information Center	Initial Cost	0.0	1,750.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,750.0
	O/M Cost	0.0	0.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	8,580.0
	Total Cost	0.0	1,750.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	10,330.0
SI-2 Development and Maintenance of Coastal Provincial	Initial Cost	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
	O/M Cost	0.0	0.0	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	13,436.4
	Total Cost	0.0	0.0	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	1,119.7	13,436.4
Sub Total		0.0	1,750.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,750.0
		O/M Cost	0.0	0.0	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	22,016.4
		Total Cost	0.0	1,750.0	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	1,834.7	23,766.4
SH Human Resources Development																
SH-1 Establishment of Local Government Training Center	Initial Cost	0.0	0.0	0.0	5,490.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,490.0
	O/M Cost	0.0	0.0	0.0	0.0	695.0	695.0	695.0	695.0	695.0	695.0	695.0	695.0	695.0	695.0	6,950.0
	Total Cost	0.0	0.0	0.0	5,490.0	695.0	695.0	695.0	695.0	695.0	695.0	695.0	695.0	695.0	695.0	12,440.0
SH-2 Development of Coastal Management Course in Local Universities	Initial Cost	0.0	944.7	944.7	944.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,834.0
	O/M Cost	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
	Total Cost	0.0	944.7	944.7	944.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,834.0
SH-3 Establishment of Extension Office Training Centers for CBCM	Initial Cost	0.0	658.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	658.0
	O/M Cost	0.0	0.0	90.0	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	1,822.5
	Total Cost	0.0	658.0	90.0	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	157.5	2,480.5
Sub Total		0.0	1,602.7	944.7	6,434.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8,982.0
		O/M Cost	0.0	0.0	90.0	157.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	8,772.5
		Total Cost	0.0	1,602.7	1,034.7	6,592.2	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	852.5	17,754.5
SE Education and Enlightenment																
SE-1 Revision of Curriculum for Environmental Education	Initial Cost	0.0	0.0	0.0	0.0	71.5	0.0	0.0	0.0	0.0	0.0	71.5	0.0	0.0	0.0	143.0
	O/M Cost	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	16.0
	Total Cost	0.0	0.0	0.0	0.0	71.5	2.0	2.0	2.0	2.0	2.0	71.5	2.0	2.0	2.0	159.0
SE-2 Training Program on School Teachers for Environmental Education	Initial Cost	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
	O/M Cost	0.0	0.0	0.0	0.0	0.0	234.6	234.6	162.2	162.2	234.6	234.6	0.0	0.0	0.0	1,262.8
	Total Cost	0.0	0.0	0.0	0.0	0.0	234.6	234.6	162.2	162.2	234.6	234.6	0.0	0.0	0.0	1,262.8
SE-3 Training Program on Coastal Community Leaders for Community Coastal Management	Initial Cost	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
	O/M Cost	0.0	0.0	71.0	71.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	142.0
	Total Cost	0.0	0.0	71.0	71.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	142.0
SE-4 Promotion of Awareness for Coastal Management for Local Government Officials	Initial Cost	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
	O/M Cost	0.0	0.0	31.5	31.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.0
	Total Cost	0.0	0.0	31.5	31.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.0
SE-5 Enlightenment Program on Coastal Users	Initial Cost	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
	O/M Cost	0.0	16.7	16.7	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0
	Total Cost	0.0	16.7	16.7	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0
Sub Total		0.0	0.0	0.0	0.0	71.5	0.0	0.0	0.0	0.0	0.0	71.5	0.0	0.0	0.0	143.0
		O/M Cost	0.0	16.7	119.2	119.2	0.0	236.6	236.6	164.2	164.2	236.6	234.6	2.0	2.0	1,533.8
		Total Cost	0.0	16.7	119.2	119.2	71.5	236.6	236.6	164.2	164.2	236.6	306.1	2.0	2.0	1,676.8

Table A.1(4) Estimated Management Cost of Proposed Projects and Programs

		Short Term				Middle Term				Long Term						Total
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
SF Finances																
SF-1 Study and establishment of fund-raising and/or fee/levy collection systems	Initial Cost	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
	O/M Cost	0.0	0.0	163.0	163.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	326.0
	Total Cost	0.0	0.0	163.0	163.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	326.0
DF Fishery Development																
DF-1 Development of Seaweed Processing Factory	Initial Cost	0.0	0.0	0.0	2,760.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,760.0
	O/M Cost	0.0	0.0	0.0	0.0	680.0	680.0	680.0	680.0	680.0	0.0	0.0	0.0	0.0	0.0	3,400.0
	Total Cost	0.0	0.0	0.0	2,760.0	680.0	680.0	680.0	680.0	680.0	0.0	0.0	0.0	0.0	0.0	6,160.0
DF-2 Feasibility Study on Maniculture of Groupers	Initial Cost	0.0	0.0	300.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	300.0
	O/M Cost	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
	Total Cost	0.0	0.0	300.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	300.0
Sub Total		Initial Cost	0.0	0.0	300.0	2,760.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,060.0
		O/M Cost	0.0	0.0	0.0	680.0	680.0	680.0	680.0	680.0	0.0	0.0	0.0	0.0	0.0	3,400.0
		Total Cost	0.0	0.0	300.0	2,760.0	680.0	680.0	680.0	680.0	0.0	0.0	0.0	0.0	0.0	6,460.0
DT Coastal Tourism Development																
DT-1 Establishment of Certification System for Coastal Tourism Operators	Initial Cost	0.0	310.0	0.0	0.0	0.0	0.0	78.0	0.0	0.0	0.0	0.0	78.0	0.0	0.0	466.0
	O/M Cost	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
	Total Cost	0.0	310.0	0.0	0.0	0.0	0.0	78.0	0.0	0.0	0.0	0.0	78.0	0.0	0.0	466.0
DT-2 Establishment of Tourist Center for Coastal Environmental Conservation	Initial Cost	0.0	0.0	0.0	36.8	36.8	660.0	660.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,393.5
	O/M Cost	0.0	0.0	96.0	96.0	134.1	134.1	134.1	134.1	134.1	134.1	134.1	134.1	0.0	0.0	1,264.8
	Total Cost	0.0	0.0	96.0	132.8	170.9	794.1	794.1	134.1	134.1	134.1	134.1	134.1	0.0	0.0	2,658.3
DT-3 Development of Trekking and Cycling Roads in Manado Tusa Island	Initial Cost	0.0	0.0	18,231.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18,231.5
	O/M Cost	0.0	0.0	1,243.5	1,243.5	114.0	114.0	114.0	114.0	114.0	124.8	124.8	124.8	124.8	124.8	3,681.0
	Total Cost	0.0	0.0	19,475.0	1,243.5	114.0	114.0	114.0	114.0	114.0	124.8	124.8	124.8	124.8	124.8	21,912.5
Sub Total		Initial Cost	0.0	310.0	18,231.5	36.8	36.8	660.0	738.0	0.0	0.0	0.0	78.0	0.0	0.0	20,091.0
		O/M Cost	0.0	0.0	1,339.5	1,339.5	248.1	248.1	248.1	248.1	258.9	258.9	258.9	124.8	124.8	4,945.8
		Total Cost	0.0	310.0	19,571.0	1,376.3	284.9	908.1	986.1	248.1	258.9	258.9	336.9	124.8	124.8	25,036.8
LE Improvement of Coastal Living Environment																
LE-1 Sanitation Facilities Development Project in the Rural Coastal Area	Initial Cost	0.0	246.7	246.7	246.7	246.7	246.7	246.7	246.7	246.7	463.3	463.3	463.3	463.3	463.3	4,290.0
	O/M Cost	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
	Total Cost	0.0	246.7	246.7	246.7	246.7	246.7	246.7	246.7	246.7	463.3	463.3	463.3	463.3	463.3	4,290.0
LE-2 Master Plan and Feasibility Study for Improvement of Water Supply and Other Social Infrastructure in Small Islands and Remote Area	Initial Cost	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	O/M Cost	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
	Total Cost	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Sub Total		Initial Cost	0.0	246.7	246.7	346.7	246.7	246.7	246.7	246.7	463.3	463.3	463.3	463.3	463.3	4,390.0
		O/M Cost	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
		Total Cost	0.0	246.7	246.7	346.7	246.7	246.7	246.7	246.7	463.3	463.3	463.3	463.3	463.3	4,390.0
Total Cost		Initial Cost	5,716.0	6,187.7	28,420.7	19,462.9	4,768.9	5,175.7	4,743.7	4,005.7	4,222.3	4,803.8	4,300.3	4,222.3	3,971.7	104,007.4
		O/M Cost	0.0	3,505.7	7,855.4	8,757.9	12,944.6	13,136.2	13,173.8	13,113.8	9,948.8	10,066.8	9,714.2	9,630.1	9,413.1	134,386.5
		Total Cost	5,716.0	9,693.3	36,276.0	28,220.8	17,713.5	18,311.9	17,879.9	17,119.5	14,171.1	14,860.6	14,014.5	13,852.4	13,384.8	238,393.9

Appendix - B

Result of Cost Benefit Analysis for Proposed
Projects and Programs

Table.B.1 Result of Cost Benefit Analysis for Proposed Projects and Programs

(Unit: million Rp.)

Year from Project Start	Year from Benefit Start	Year	Benefits		Costs				Discounted (10%)			
			Incremental Natural Value	Total	Initial Cost	O/M Cost	Total	Net Cash Flow	Discount Parameter	Benefits	Costs	Net
1		2002		0	5,716	0	5,716	-5,716	1.0000	0.0	5,716.0	-5,716.0
2		2003		0	6,188	3,506	9,693	-9,693	0.9091	0.0	8,812.1	-8,812.1
3		2004		0	28,421	7,855	36,276	-36,276	0.8264	0.0	29,980.2	-29,980.2
4		2005		0	19,463	8,758	28,221	-28,221	0.7513	0.0	21,202.7	-21,202.7
5	1	2006	118,382	118,382	4,769	12,945	17,714	100,668	0.6830	80,856.5	12,098.6	68,757.9
6	2	2007	118,382	118,382	5,176	13,136	18,312	100,070	0.6209	73,505.9	11,370.2	62,135.7
7	3	2008	118,382	118,382	4,744	13,136	17,880	100,502	0.5645	66,823.6	10,092.7	56,730.8
8	4	2009	118,382	118,382	4,006	13,174	17,179	101,203	0.5132	60,748.7	8,815.8	51,932.9
9	5	2010	118,382	118,382	4,006	13,114	17,119	101,263	0.4665	55,226.1	7,986.4	47,239.7
10	6	2011	118,382	118,382	4,222	9,949	14,171	104,211	0.4241	50,205.5	6,009.9	44,195.6
11	7	2012	118,382	118,382	4,804	10,057	14,861	103,521	0.3855	45,541.4	5,729.4	39,912.0
12	8	2013	118,382	118,382	4,300	9,714	14,015	104,367	0.3505	41,492.2	4,912.0	36,580.2
13	9	2014	118,382	118,382	4,222	9,630	13,852	104,530	0.3186	37,720.2	4,413.8	33,306.3
14	10	2015	118,382	118,382	3,972	9,413	13,385	104,997	0.2897	34,291.0	3,877.1	30,413.9
15	11	2016	118,382	118,382		9,413	9,413	108,969	0.2633	31,173.7	2,478.6	28,694.9
16	12	2017	118,382	118,382		9,413	9,413	108,969	0.2394	28,339.7	2,253.4	26,086.3
17	13	2018	118,382	118,382		9,413	9,413	108,969	0.2176	25,763.4	2,048.6	23,714.8
18	14	2019	118,382	118,382		9,413	9,413	108,969	0.1978	23,421.2	1,862.3	21,558.9
19	15	2020	118,382	118,382		9,413	9,413	108,969	0.1799	21,292.0	1,693.0	19,599.0
20	16	2021	118,382	118,382		9,413	9,413	108,969	0.1635	19,356.4	1,539.1	17,817.3
21	17	2022	118,382	118,382		9,413	9,413	108,969	0.1486	17,596.7	1,399.2	16,197.5
22	18	2023	118,382	118,382		9,413	9,413	108,969	0.1351	15,997.0	1,272.0	14,725.0
23	19	2024	118,382	118,382		9,413	9,413	108,969	0.1228	14,542.8	1,156.4	13,386.4
24	20	2025	118,382	118,382		9,413	9,413	108,969	0.1117	13,220.7	1,051.2	12,169.4
25	21	2026	118,382	118,382		9,413	9,413	108,969	0.1015	12,018.8	955.7	11,063.1
26	22	2027	118,382	118,382		9,413	9,413	108,969	0.0923	10,926.2	868.8	10,057.4
27	23	2028	118,382	118,382		9,413	9,413	108,969	0.0839	9,932.9	789.8	9,143.1
28	24	2029	118,382	118,382		9,413	9,413	108,969	0.0763	9,029.9	718.0	8,311.9
29	25	2030	118,382	118,382		9,413	9,413	108,969	0.0693	8,209.0	652.7	7,556.3
sum to 2015					104,007	134,367	238,394	945,426		546,511.0	141,017.0	
sum to 2030			1,182,014	1,182,014	104,007	275,583	379,590	2,579,960		807,331.5	161,756.0	645,575.5

