

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Benefit															
Compensations not paid	0	0	10000	40000	80000	110000	115000	115000	115000	115000	120000	120000	120000	120000	120000
Cost															
Fence construction	400000	0	600000	0	0										
Destroyed farms per year	24	24	22	16	8	2	1	1	1	1	0	0	0	0	0
Compensation for destroyed farms	120000	120000	110000	80000	40000	10000	5000	5000	5000	5000	0	0	0	0	0
Net Benefit	-400000	0	-590000	40000	80000	110000	115000	115000	115000	115000	120000	120000	120000	120000	120000
Incremental net benefit	-280000	120000	-470000	160000	200000	230000	235000	235000	235000	235000	240000	240000	240000	240000	240000
Present value of incremental net benef	-280000	109091	-388430	120210	136603	142812	132651	120592	109629	99663	92530	84119	76471	69519	63200
Discount rate	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Discount factor	1,0000	0,9091	0,8264	0,7513	0,6830	0,6209	0,5645	0,5132	0,4665	0,4241	0,3855	0,3505	0,3186	0,2897	0,2633
Economic net present value	688661														

The economic net present value (NPV) at discount rate of 10% is 688,661 KShs

NPV at discount rate of 30% is -68,773 KShs

The internal rate of return (IRR) is $10\% + 20\% * 688,661 / (688,661 + 68,773) = 28,18\%$

If the timeframe is reduced to 10 years

NPV at 10% is 302822,

NPV at 25% is -63739, and

IRR = 22,39 %

The cost-benefit analysis shows that the proposed fencing, when the compensation payments for agricultural farms destroyed by elephants are taken into account, can become an economically viable option.

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