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The Costs and Benefits of Curbing Illegal Wildlife Trade in Southern Africa: Results for Namibia

Namibia Nature Foundation
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Increased poaching and IWT has enormous negative impact on the potential for community-socio-economic upliftment.

"...the problems are posed by an underground economy, including corruption and crime."

The economic impacts of illegal wildlife trade (IWT)

As a result of increasing international demand and depleting wildlife populations in other areas of the world, southern Africa has seen a recent surge in wildlife poaching. This surge in poaching has led to the loss of highvalue species, such as elephants, rhinos, and pangolins, and caused concerns about the impacted ecosystems and associated economic losses. The Namibian Financial Intelligence Center estimated that the foregone revenue in Namibia (or revenue circulated in illegal markets rather than legal ones) for elephant tusks was about $690,000 (2013 NAD) and about $142,000 (2012 NAD) for rhino horns. A major impact from these activities is the associated losses in tourism revenue and trophy hunting, as well as the problems posed by an underground economy, including corruption and crime.

Investments in curbing IWT are being made with little information on the costs of IWT and the benefits of curbing it. This type of economic information is important to justify the investments being made, to ensure that the benefits generated are greater than the costs and that economically viable solutions are being implemented. Economic tools and analysis can help achieve target goals in efficient ways, while also considering distributive impacts, opportunity costs, the evolution of costs and benefits into the future, and potential market failures.

ECONOMIC TOOLS FOR ASSESSING INVESTMENTS IN CURBING IWT	
Cost Benefit Analysis	A standardized comparison of monetary costs and benefits associated with a policy, project or initiative
Cost Effectiveness Analysis	The evaluation of the costs of different alternatives that ensure a desirable outcome
Multi-criteria Analysis	An evaluation of multiple conflicting criteria using a multi-dimensional metrics

Decimation of Asian pangolin populations has placed great pressure on African pangolins.

Cost benefit analysis of curbing IWT in Namibia

The Namibia Nature Foundation, in collaboration with Conservation Strategy Fund, conducted a case study to understand the economic implications of investing in curbing IWT through a cost benefit analysis (CBA) of current and proposed investments in Namibia.

> "... understand the economic implications of investing in curbing IWT through a cost benefit analysis (CBA) of current and proposed investments in Namibia."

Framework

The No-Poaching Scenario: reflects a realistic maximum effort and effectiveness scenario under which IWT is significantly curbed within a realistic time horizon.

The Baseline Scenario (or Business As Usual – BAU): reflects current spending levels, poaching rates, population levels, and current streams of benefits.

The High-Poaching Scenario: is presented as a benchmark to evaluate benefits relative to a hypothetical counterfactual. In this scenario the fight against wildlife crime is massively defunded and poaching cases ramp up rapidly.

THREE SCENARIOS WERE MODELLED AS FOLLOWS:			
	No-Poaching	BAU	High-Poaching
Poaching	↘	→	↗
Population	↗	→	↘
Expenditure	↗ ↘	→	↘

The CBA focused on three key actors leading current investments in curbing IWT in Namibia: 1) the national government – including through public international aid, 2) communities living on communal land, and 3) private landholders. Nation-wide impacts to the tourism industry at large are also considered.

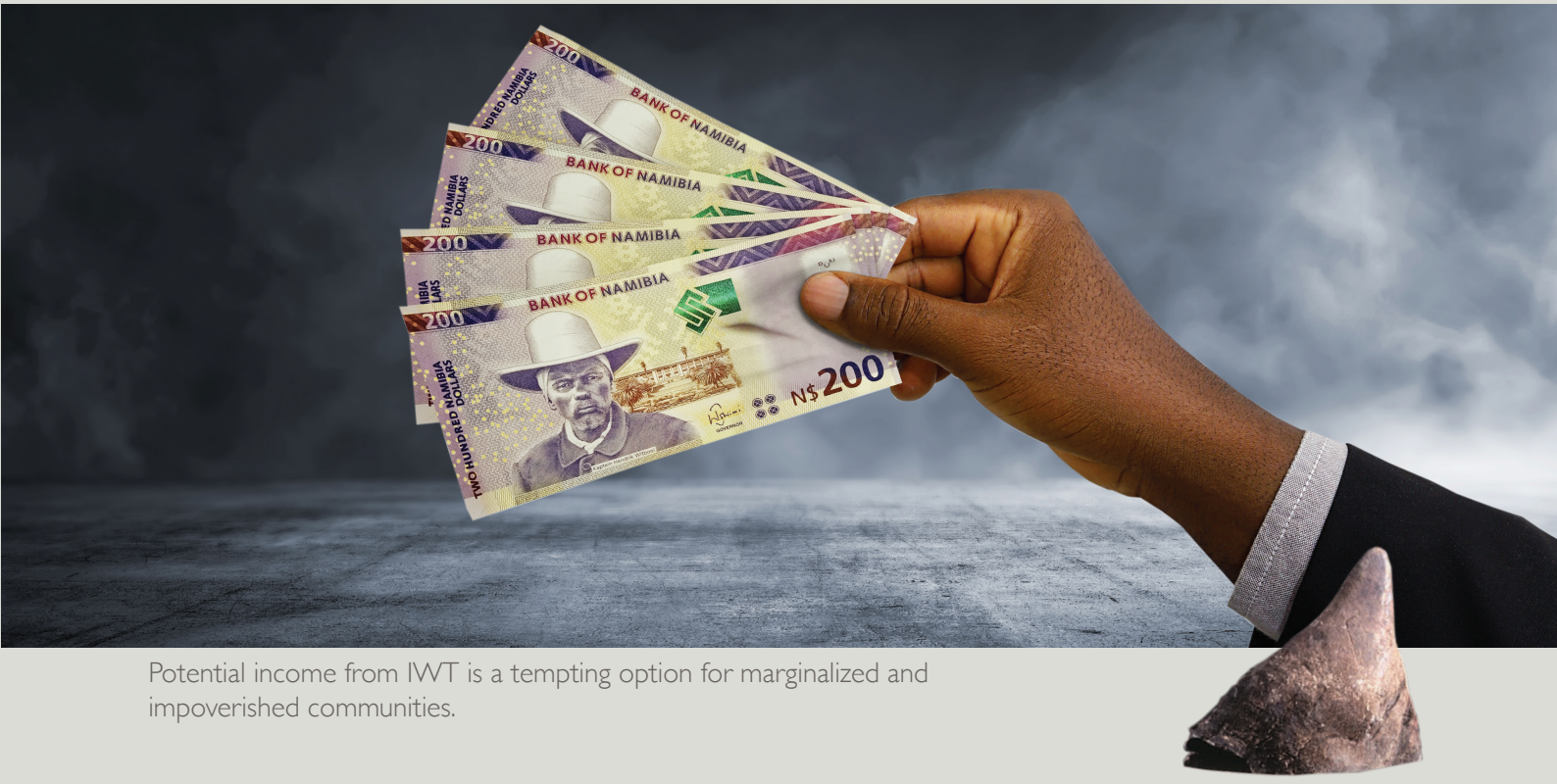
African protected areas have the potential to boost economies and to drive socio-economic change.

> “It is estimated that southern African protected areas lose on average US$13 million per year due to elephant poaching.”

Two key species, rhinos and elephants, are used as proxies for the suite of costs and benefits associated with curbing IWT.

COSTS AND BENEFITS ANALYSIS				
Species proxies for benefit streams	Black Rhino	→	Included	Wildlife-viewing tourism revenue
				Trophy hunting revenue
	White Rhino			Live sales
			Partially included	Reputational benefit for Namibia
	Elephants			Other hunting values, including meat
			Excluded	Intrinsic value of rhinos and elephants (value placed on conservation of iconic species)
				Ecological services (e.g., landscape management, pollination and seed dispersal, waste assimilation, habitat for other species, etc.)
Actors	Government (including international aid and NGOs)	→	Included	Direct expenditures into anti-poaching and wildlife crime prevention for each actor
				Loss of human lives
	Local communities (including poachers)			Damages and losses from human-wildlife conflict
			Partially included	Opportunity cost of expenditure into wildlife crime prevention
	Private land holders (game reserves)			Cost of widespread corruption

Costs and benefits were first identified through a literature review but not all could be included.



Potential income from IWT is a tempting option for marginalized and impoverished communities.

Results

The results of the CBA show that considerable investments are being made in curbing IWT. Under the current situation, the expenditure invested into curbing IWT was estimated at about N$2 billion over the next 10 years, about N$250 million per year across actors. Most of the cost is undertaken by the government, with public funding covering about 77% of the cost calculated in this study. Working in a synergistic and collaborative way with private landholders and communities results in more effective action and requires effective engagement from these partners.

The benefits of curbing IWT are significant and critical to the Namibian economy. Including all tourism and businesses benefiting from the presence of wildlife species, current total net benefits amount to about N$18 billion over the ten-year period. Under the Business-as-Usual scenario, benefits from the wildlife economy by type of actor are as follows:

- The government receives the highest benefits at about N$ 260 million annually — N$2.6 billion over ten years.
- Private landholders also receive significant benefits at about N$ 2.5 billion over ten years or about N$250 million annually.
- Communities obtain about N$933 million of benefits over ten years or about N$92 million annually.

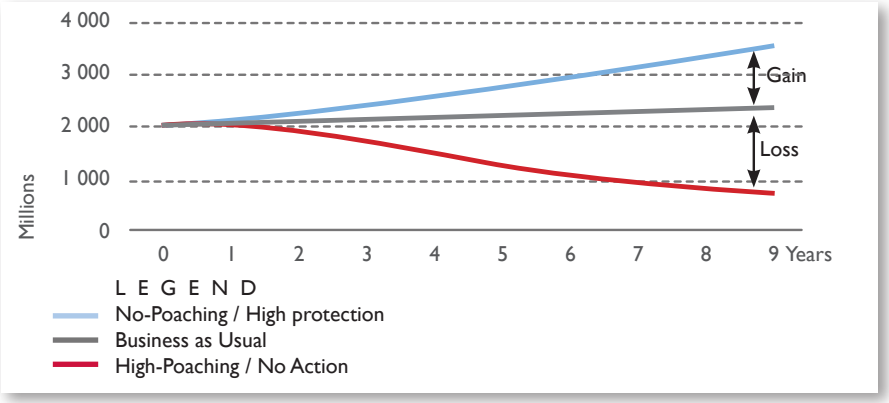
> “Under the current situation, about N$250 million are invested into curbing IWT in Namibia every year across actors, with government and international public funding covering 77% of these expenses.”

Iconic large mammals such as elephants are crucial to the tourism industry — and by extension, to jobs and the local economy.

"Private landholders increase their net benefits from N$2.1 billion (BAU) to N$ 2.5 billion (No-Poaching)."

The benefits generated by the wildlife-based tourism and trophy hunting industry at national level significantly drop under the High-Poaching scenario - 70% lower than BAU by Year 9 - while for the No-Poaching scenario it significantly increases - by almost 50% than BAU by Year 9.

Economy wide benefits generated from wildlife, NAD



Net benefit comparison across scenarios, which are the benefits minus costs over the project lifetime, show that the No-Poaching scenario created the most benefits, with net benefits of about N$ 22 billion over ten years, which is a 20% increase from the business as usual (BAU) scenario.

Under the current situation, about N$250 million is invested into curbing IWT in Namibia every year across actors, with government and international public funding covering 77% of these expenses.

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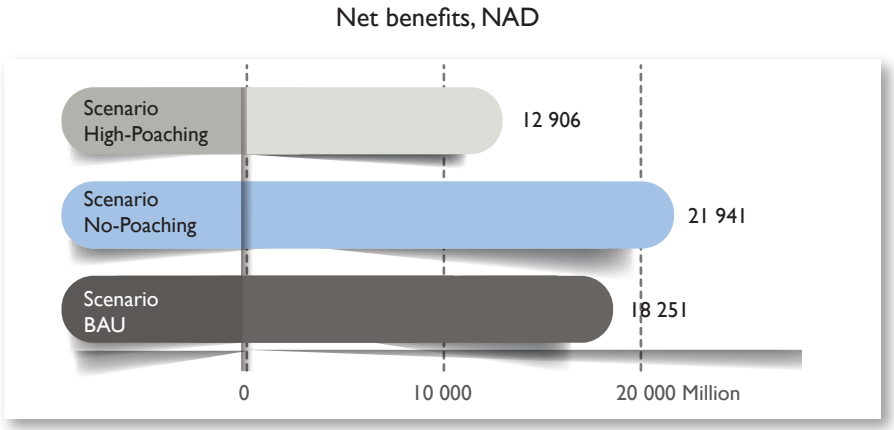
Attention, elephant warning sign at dusty dirt road, in Damaraland, Namibia.



Net present value of net benefits over 10 years across scenarios

There are notable differences in the distribution of economic impacts across the three actors studied:

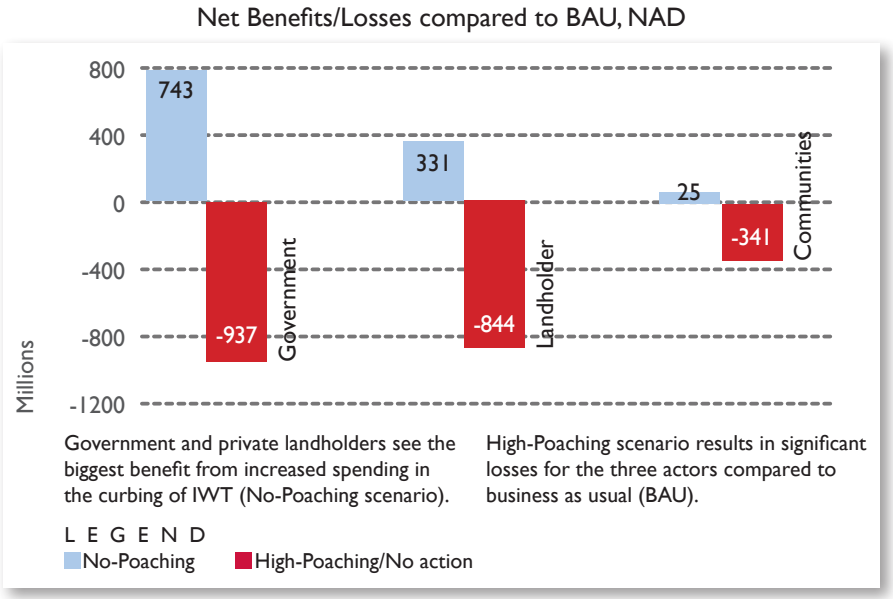
- Government's net benefits over ten years increases from N$1.1 billion (BAU) to almost N$1.8 billion (No-Poaching), a N$743 million or 64% increase.
- Private landholders increase their net benefits from N$2.1 billion (BAU) to N$ 2.5 billion (No-Poaching), a N$331 million or 15% increase.
- The net benefits for communities under a No-Poaching scenario increases far less, by 3% only or N$25 million over ten years. This may be partly due to the fact that revenue to poachers is captured as a financial revenue in communities coupled with the fact that communities also see more human-wildlife conflict and obtain less benefits from tourism and hunting related to rhinos.

> "The net benefits for communities under a No-Poaching scenario increase far less for local communities than for private landholders."

Alexandre Zappalorto / Shutterstock.com

Etosha National Park — the jewel in the crown for tourism.

"The tourism economy is an economic engine in the country, and it sustains a large percentage of the population both directly and indirectly."



Comparison of net benefits (NPV over ten years) of No-Poaching and High-Poaching scenario relative to BAU

Net Benefits over ten years, are 20% higher - about N$3.7 billion more - under the No-Poaching scenario than under Business-as-Usual, despite increased expenditures into curbing IWT from all actors.

Key Takeaways

Overall, the CBA shows that it makes economic sense to invest in curbing IWT. Even though this study included primarily local financial benefits associated with protecting rhino and elephant populations, the results were very clear: benefits greatly outweigh costs. Expanding the scope of this study will likely amplify these findings. The tourism economy is an economic engine in the country, and it sustains a large percent of the population directly and indirectly. However, it requires investments to protect the wildlife populations that are unique to Namibia.

Entry gate to the Lapa Lange Game Lodge in southern Namibia, offering tourists abundant animal and bird life in the Kalahari Desert.

Benefits of curbing IWT outweigh the costs.
Even though this study focused only local financial benefits associated with protecting rhino and elephants.

Net Benefits can improve with increased expenditures into curbing IWT.
If projected increases in spending are effective at further curbing IWT, net benefits could improve by N$3.7 billion.

Defunding wildlife crime prevention results in net losses of more than N$5 billion.
As compared to the current situation.

Increase in the benefits for communities is relatively low due to the decrease in the income for poachers, increase in HWC, and limited benefits captured from rhinos and elephants.
Further study is required to understand communities' costs and benefits, including behavioral studies.

> "Increase in benefits for communities is relatively low due to the decrease in income for poachers, increase in HWC, and limited benefits derived from rhinos and elephants."

The fact that the benefits to conservancies under the No-Poaching scenario are relatively low is concerning from a distributive perspective, especially given the need to engage communities to ensure success. The relatively low benefits to conservancies, the financial costs to poachers under the No-Poaching scenario, natural wildlife conflict between elephant populations, and the fact that conservancies do not manage as much rhino tourism, all have important implications for future projects.

An effort to offer alternative sources of income to poachers is critical and communities as a whole might need extra incentives to ensure commitment to increasing their efforts and investments in curbing IWT.

In the context of stringent government budget constraints and pressures, it is important to ensure that IWTcurbing initiatives can be sufficiently funded and that there is cooperation among actors to reap the collective benefits of a healthy wildlife population. Other sources of financing are needed to build resilience, and the identification of beneficiaries is important for achieving this goal.

The tourism industry offers training and employment opportunities, from hospitality to guiding, to stakeholder communities.

This policy brief was prepared by Tania Briceno (Conservation Strategy Fund) and Juliette Perche (Namibia Nature Foundation), authors of the corresponding report "Namibia Case Study: Cost-Benefit Analysis of Curbing Illegal Wildlife Trade" published in May 2021 for the USAID VukaNow Activity project "Assessing the economic impact of Illegal Wildlife Trade in the SADC region". The views represented in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States government.

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