

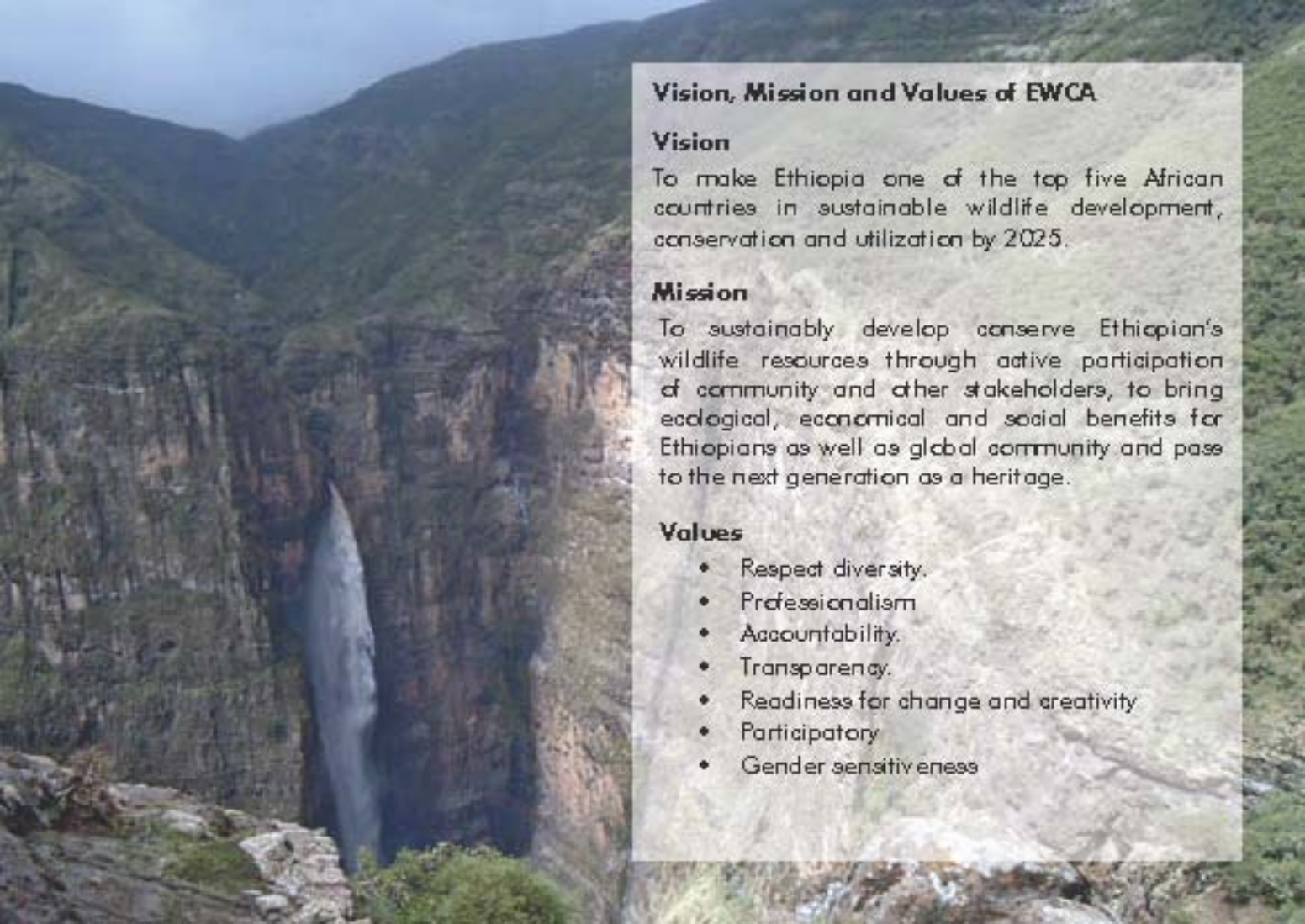
The Value and Potential of the Wildlife Protected Areas of Ethiopia (A Case Study on 14 Protected Areas):



Messages for Policy Makers

Ethiopian Wildlife Conservation Authority EWCA





Vision, Mission and Values of EWCA

Vision

To make Ethiopia one of the top five African countries in sustainable wildlife development, conservation and utilization by 2025.

Mission

To sustainably develop conserve Ethiopian's wildlife resources through active participation of community and other stakeholders, to bring ecological, economical and social benefits for Ethiopians as well as global community and pass to the next generation as a heritage.

Values

- Respect diversity.
- Professionalism
- Accountability.
- Transparency.
- Readiness for change and creativity
- Participatory
- Gender sensitiveness

Messages for Policy Makers

Key messages

The Ethiopian protected areas system is blessed with significant wildlife potential, biodiversity and beautiful landscapes. The current annual value of the ecosystem services associated with EWCA-managed protected areas is highly significant at an estimated ETB6.5 billion/year (US\$325 million/year).

Despite progress in government attention towards the sector, protected areas in the country operate at a level substantially below their potential. They are largely an under-valued asset in the pursuit of country's economic development goals.

Funding allocations to protected areas management are very low by regional and global standards. This is of particular concern given the numerous threats and challenges that need to be addressed in addition to the opportunities that are being missed.

Maintenance of the protected areas funding status quo would lead to continued decreases in the value and economic potential of protected areas. If funding increased to allow for effective management, the total value of the EWCA protected areas system

could almost double to a value of ETB12.6 billion/year (US\$630 million/year).

Increased funding would support overall national development policy and make a contribution to the key sectors in the economy including the water resources, energy, agricultural and tourism sectors. It would also support climate change adaptation and mitigation and associated water, food and energy security whilst helping the country meet its land restoration goals.

There are numerous opportunities for increasing income from protected areas which are being actively pursued by EWCA such as tourism-related income and carbon market projects. These initiatives, however, often also require investment to achieve success.

Protected areas provide valuable ecosystem services which play an important role in the fight against poverty.

Protected areas require additional funding if they are to fulfil their significant potential to contribute further to economic development goals.

Foreword by the Director General EWCA



Dawud Mume
Director General
Ethiopia Wildlife Conservation
Authority

Ethiopia is endowed with abundant natural resources. Tourists visiting is increasing, not only to see Ethiopia's rich cultural heritage, but also to enjoy the natural attractions. Our people, who are still to a large extent depending on agriculture and other natural resource use, have a natural interest to see these resources being used sustainably.

Much of the remaining natural habitat of the country is contained within the Ethiopian Protected Area System, made up of wildlife- and forest-protected areas, which



are unique in terms of their biodiversity and contain high levels of endemism.

The benefits of Ethiopia's PAs, however, extend far beyond their boundaries. They play an important role in combating climate change, they act as enormous carbon sinks, and provide capacity to adapt to climate change. They stabilise and regulate the water flow of major rivers in the country, including protecting dams from silting up.

Ethiopia's PAs are on the way to become a major tourist attraction. Tourist number increases by more than 10% every year. Let us make sure that this development is not jeopardised by unsustainable practises in the parks. We have to avoid to destroy a very valuable resource, we have to give due attention to protect and utilise it sustainably.

Protected Areas do not prevent development, but to the contrary contribute to economic and social welfare by providing the ecosystem services mentioned above. Ethiopia's PAs are a valuable asset for sustainable "green" development that our Government promotes. The GTP two acknowledges this.

Unfortunately pressure on natural habitats is increasing, causing unsustainable use of the natural resources. Overgrazing by a large livestock population and unplanned conversion of natural habitat to farm land and

consequently fragmentation and isolation of remaining natural habitats and forests are the main drivers.

Such activities diminishes the ecosystem services PAs provide and jeopardises the development goals of the country. Without proper resource use, Ethiopia will run out of water for its dams, of agricultural land due to erosion, of grazing due to drought and invasive plants.

As Director General of the Ethiopian Wildlife Conservation Authority I want to state clearly that the value of the PA-system is tremendous. The results of the study presented in this booklet proves it.

The federal PA system managed by EWCA is still underfunded by at least the factor four. To achieve our conservation goals, we need partners.

In this spirit, the Government has partnered with the Global Environment Facility and the United Nations Development Programme to develop this analysis of the value of the PA-system of Ethiopia. We hope that the results of the study will further motivate the decision makers of Ethiopia to provide for an enabling environment for effective biodiversity conservation, strengthening the protected areas through increasing support, supporting the sustainable utilization of natural resources and ultimately contributing to the growth of the national economy.

Foreword by the Country Director of UNDP Ethiopia Office



Samuel Buwalya (Dr.)
Country Director
UNDP Ethiopia

I am pleased to introduce to you this in-depth case study on “The value and potential of Wildlife protected Areas of Ethiopia. The in-depth analysis of the economic value of Ethiopia’s Protected Areas was undertaken by the United Nations Development Programme. The fourteen protected Areas analyzed are Hallideghi-Assobot, YangudiRassa, Awash, AbijataShalla Lakes, Gerale, Bale Mountains, Nechisar, Gambella, Omo, Alitash, QuaftaShiraro and Simien Mountains and 2 Sanctuaries (Babile Elephants’ Sanctuary and SenkelleSwayn’s Hartebeest).



Since 2008, UNDP has through its Sustainable Development of Protected Area System (SDPASE) project been working towards safe-guarding these protected areas. The Global Environment Fund (GEF) has contributed through UNDP USD 9 million to this project including the USD 1 million as seed money for Ethiopia's Wildlife Trust Fund. UNDP's has in addition contributed USD 4 Million from its own core financial resources some of which were allocated to support this publication.

As you may already know, Ethiopia falls within the top twenty-five countries that are endowed with vast biodiversity resources. It is home to two of the world's thirty-four biodiversity hotspots collectively called the Eastern Afromontane and the Horn of Africa hotspots as well as being a major center of diversity and endemism for several plant, animal and microbial species.

In this study, national ecosystem services including watershed protection, water provision, carbon sequestration, grazing, harvesting of natural products, medicinal plants, pollination and pest control, tourism , recreation, cultural and existence worth of these protected areas are valued at Ethiopian Birr 6.5 billion per year (USD 325 million/year). Combined with all other regional and forest protected areas of Ethiopia, this value exponentially increases.

On the flipside, Ethiopia's natural habitats and ecosystem and the various services they offer have been facing multiple threats from overgrazing, deforestation through harvesting of timber, agricultural and settlement expansions, firewood demands and

other human-induced pressures. This has led to extreme habitat fragmentation resulting into isolation of certain biomes which have made them isolated and as such susceptible to further habitat degradation and potential disappearance.

In order to positively influence and change these negative trends, Ethiopia has had to invest substantial human and financial resources to protect its natural resources.

This case study has clearly shown that investing in the protected area system and natural resources management has great potential to generate social, economic and environmental benefits and thereby laying a firm foundation for the country's sustainable development. One key finding of the study is that the benefit-cost ratio for protected area management under the ideal funding scenario of ETB 576 million/year or US\$28.8 million lies between 6:1 and 7.4. In less technical terms, this means that greater investments in protected area management can produce 6 to 7 times more benefits to the country.

I therefore, wish to applaud Government's efforts in prioritizing protected areas management financing. My thanks also go to the UNDP/GEF for their unwavering technical and financial support to this course. Without doubt, protected area systems of Ethiopia hold immense potential for contributing to the national economy while protecting irreplaceable ecosystem services and functions key to sustainable development and wellbeing of current and future generations.

Ethiopia's protected areas system



Ethiopia's Protected Areas System covers around 8% of its landmass, which is far below the African average. The Ethiopian Wildlife Conservation Authority (BWCA) is managing 14 protected areas; National Parks and Wildlife Sanctuaries regulates as well as administers wildlife utilisation in the entire country. Other protected areas, including a number of National Parks, Reserves, Biosphere Reserves and Controlled Hunting Areas, are managed by various regional authorities in the nine regional states of Ethiopia.

The biogeography is characterized through the Ethiopian Highland Plateau and the arid Horn of Africa. Both areas

are considered as biodiversity hotspots of global importance due to high levels of endemism. Furthermore, the Afromontane highlands are the main watershed for the arid lowlands, making the lowlands dependent on the good management and protection of watersheds in the highlands, many of which lie in protected areas. Thus, the overall economic value of the protected areas system comprises of indirect benefits and environmental services in addition to direct benefits from the usage of protected areas which are currently minimal.





In Ethiopia wildlife protected areas form the cornerstones of the national conservation strategy. As such, they are an integral part of sustainable development for Ethiopia in providing protection to centre pieces of wider landscapes and watersheds as sources of important ecosystem services. They act as refuges for species and ecological processes that cannot survive in intensely managed landscapes. Although

protected areas were often created primarily to conserve biodiversity, they also provide other essential benefits for local communities as well as the national economy at large.

The overall management effectiveness of most protected areas is low compromising their ability to provide economic benefits.

Current values or benefits associated with EWCA managed protected areas

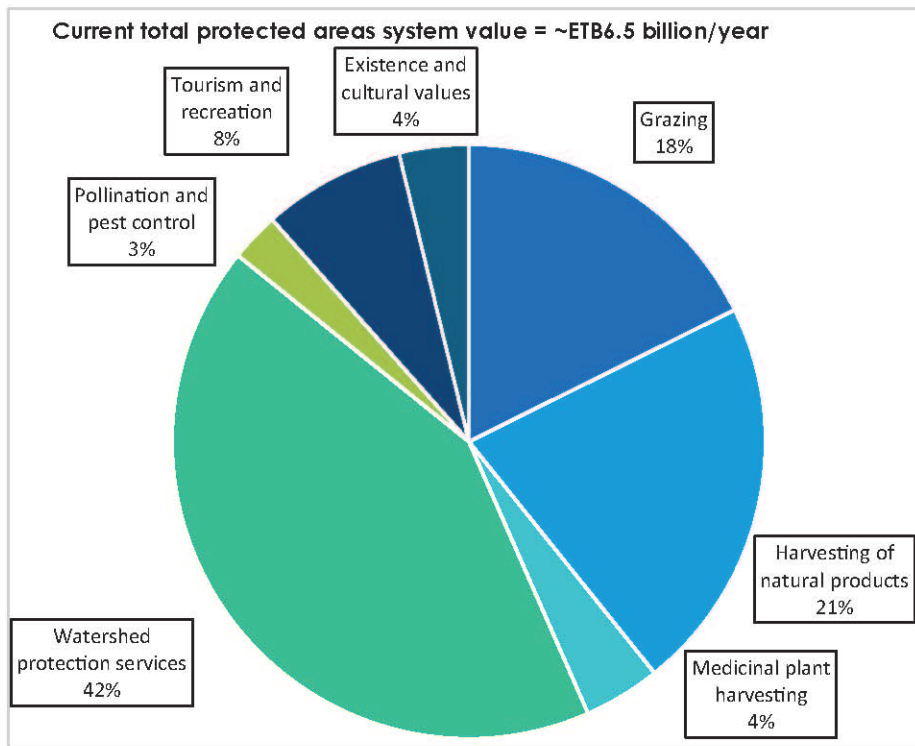


The protected areas system provides a number of critical ecosystem services that play an important role in support and driving sustainable economic development. This should not come as a surprise given the locations, sizes, varied habitats and rich biodiversity associated with protected areas in Ethiopia. Key ecosystem services which make the most valuable contributions to society include:

- Harvesting of medicinal plants
- Watershed protection, water provision and erosion control
- Carbon sequestration
- Pollination and pest control
- Tourism and recreation
- Existence and cultural values
- Grazing
- Harvesting of natural products



The current annual value of these ecosystem services is highly significant and in the order of ETB6.5 billion/year (US\$325 million/year). This total amount is made up of the following contributions from individual ecosystem services:



It is to be noted here that the values of grazing and other harvesting of natural products in the PAs is illegal according to the Ethiopian wildlife legislation. Investment in the protected areas of the country will lead to decrease in these values, and other values like tourism, carbon etc to increase.

Distinguishing between carbon stocks and the potential to absorb carbon

The protected areas system contains valuable stocks of carbon with a value in the order of ETB90 billion (US\$4.5 billion). However, stock values are not an indication of the annual additional value created by the protected areas. This depends on whether protected areas are net carbon absorbers/sinks or net carbon emitters which, in turn, will be governed by whether degradation and deforestation increases (resulting in net carbon emission) or decreases (resulting in net carbon absorption). Ethiopian protected areas are probably currently carbon neutral at best (i.e. absorption is roughly equal to emissions) meaning they have an annual carbon absorption value of zero. Only with better funding and management can degradation be reversed allowing protected areas to absorb or sequester significant additional carbon.

Grazing in protected areas

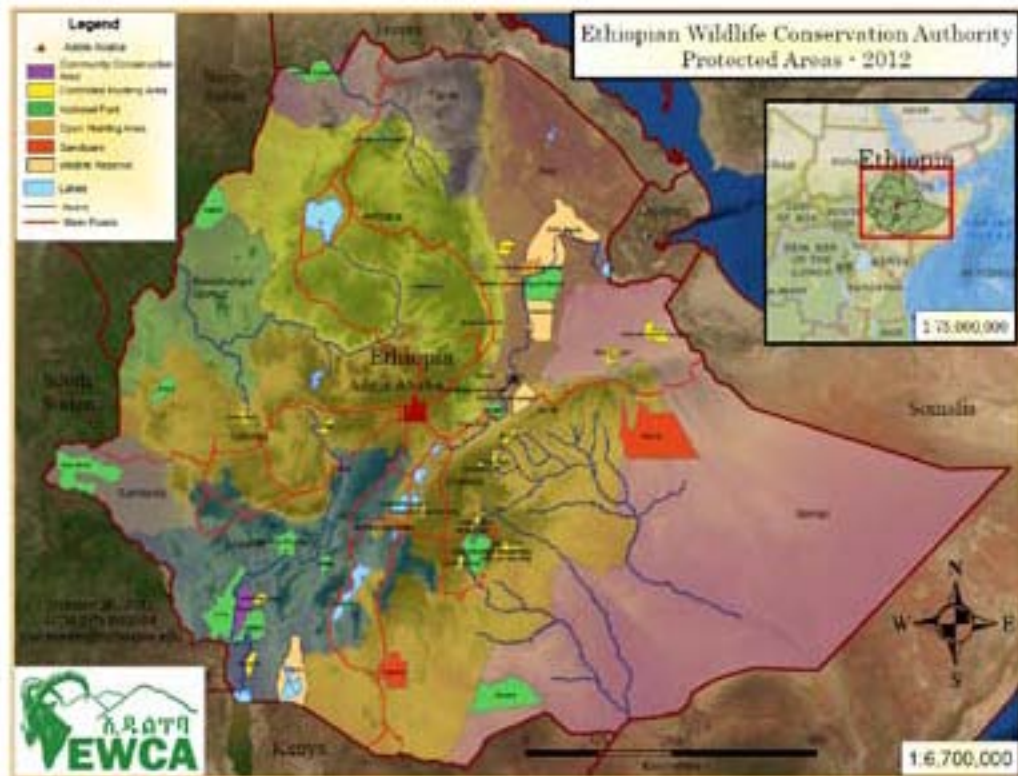
Over two million heads of livestock are thought to graze in the protected areas system permanently and seasonally. These animals have an estimated value of ETB1.15 billion/year.

Pollination and pest control services from protected areas

Intact and biodiverse natural areas such as those in protected areas tend to be associated with higher varieties and concentrations of natural pollinators such as bees. They are also generally associated with insects, birds and animals that assist with the natural control of pests. The value of these services are roughly ETB173 million/year.



The current annual value of the ecosystem services associated with EWCA protected areas is highly significant at an estimated ETB6.5 billion/year (US\$325 million/year).



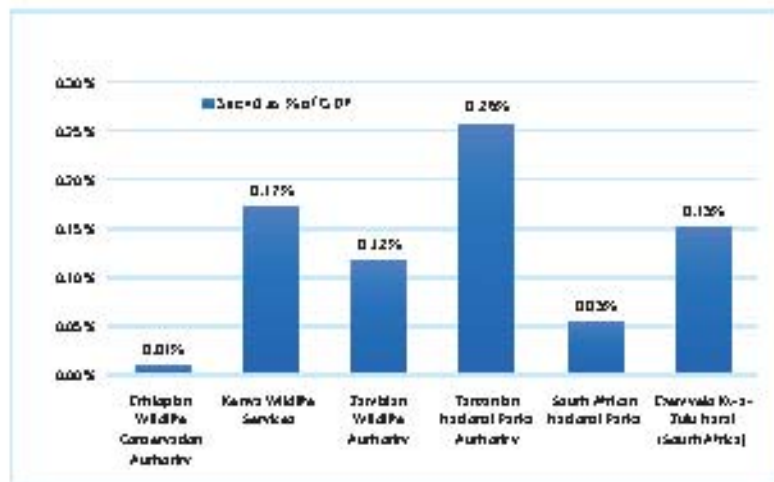
The protected areas of Ethiopia



Comparing current EWCA's spending on protected areas



Benchmarking current EWCA funding for protected areas management against funding in other countries allows for a better understanding of Ethiopia's relative commitment to protected areas management and likely ability to achieve success. EWCA's current spending is equivalent to approximately 0.01% of Ethiopia's Gross Domestic Product (GDP) which is substantially lower than other protected areas management agencies.



Per hectare spending on protected areas management can also provide a useful comparison. EWCA currently spends approximately US\$0.8/hectare/year on protected areas management. Spending by the Zambian Wildlife Authority, for example, is higher though relatively comparable. Spending by the Kenya Wildlife Services and the Tanzanian National Park Authority is, however, roughly 12 times higher at around US\$10/hectare/year.

EWCA's current spending is equivalent to approximately 0.01% of Ethiopia's Gross Domestic Product (GDP) which is substantially lower than other protected areas management agencies in the region.

Comparisons with other countries provides a strong indication that current funding allocated to EWCA for protected areas management is inadequate.

Protected areas' economic value increases from increased funding



Using scenarios one can explore the implications of continuing with the status quo characterised by inadequate funding or increasing funding to make truly effective management a reality.

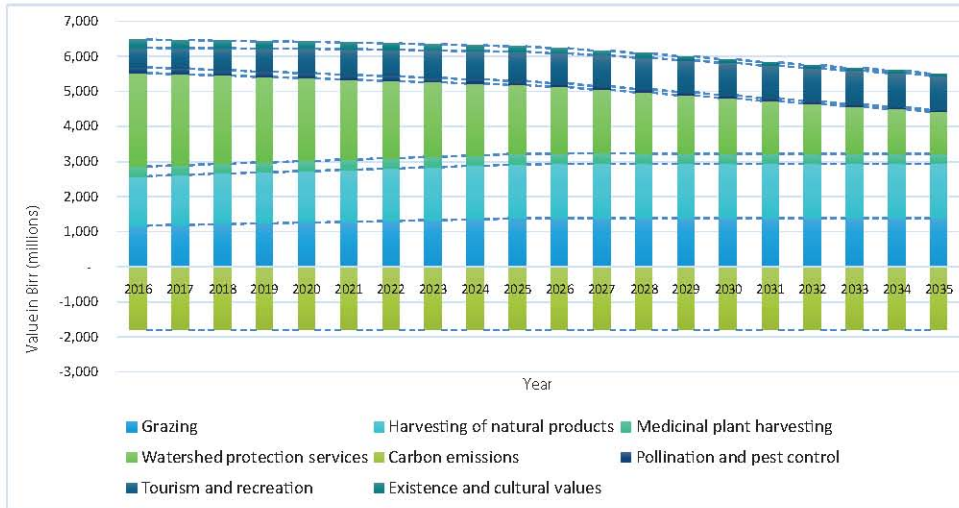
If funding remains at low current levels, it is likely that grazing and harvesting in protected areas would increase steadily before reaching a plateau where degradation becomes so advanced that the land can no longer support more use. The value of all other ecosystem services would decrease substantially with watershed services showing particularly significant decreases. Tourism may still grow slowly

but would struggle given limited facilities and attraction development. Due to accelerated degradation and deforestation, protected areas would also become significant sources of carbon emissions imposing net costs on society in the order of ETB1.8 billion/year. Within 20 years, the total value of the EWCA protected areas system would almost halve from their current value of approximately ETB6.5 billion/year to a value of ETB3.7 billion/year (US\$185 million). Maintenance of the status quo with regard to funding would therefore arguably reflect a high level of short-termism with commensurately high costs and risks attached to it.



By comparison, the graphic below shows that if funding increased to allow for effective management, the total value of the EWCA protected areas system would almost double to a value of ETB12.6 billion/year (US\$630 million/year). The grazing and harvesting value associated with protected areas would decrease relatively significantly if this were to happen. The value of all other ecosystem services would increase, on the whole, significantly and steadily. Watershed

services and water supply values would improve robustly as degradation is reversed and protected areas return to a nearer natural state. Tourism would be given the chance to grow rapidly thereby becoming a key contributor to local livelihoods taking its value from approximately ETB630 million/year to ETB2.8 billion/year in 20 years. Carbon sequestration benefits would also be highly significant.



The economic benefits that would flow from allocating ideal funding levels to the management of protected areas would be six to seven times more than the financial costs associated with this funding. This supports the basic economic desirability or value for money of increased funding for protected areas even if one takes a conservative view and assumes that benefits may be lower.

Maintenance of the status quo with regard to protected areas funding would be short-sighted, with commensurately high long-term costs and risks attached to it.

The economic benefits that would flow from allocating ideal funding levels to the management of protected areas would be six to seven times more than the financial costs associated with this funding.





Protected areas and policy goals



Increased funding of protected areas is largely compatible with numerous key economic development policies and plans. These include:

- Support for overall poverty alleviation through the provision of direct and indirect benefits particularly in rural areas.
- Water resources management (and associated hydropower) given the well-established link between watershed protection and the natural or near-natural habitats associated with protected areas.
- Agricultural policy where protected areas management can support the agriculture sector and associated food security goals to the extent that protected areas fulfil their mandates to manage their areas as natural ecosystems.
- Tourism development where protected areas could play a significantly more prominent role in driving tourism growth in the country provided they are appropriately developed and managed with this in mind.



- Support for climate change policy. Protected areas can mitigate climate change through the capture and storage of carbon. They can also cost-effectively assist adaptation through ecosystem-based approaches. This includes playing a role in preventing or reducing the effects of natural disasters such as droughts and floods, providing enhance water supplies, addressing climate related health issues, protecting food supplies and protecting biodiversity to maintain ecosystem resilience.
- Recognising the multiple benefits flowing from land restoration, the Ethiopian government has set an

ambitious target to restore 15 million hectares (or one-sixth of the country's total land) of degraded and deforested land by 2025. Such a restoration effort should include or even focus on Ethiopia's protected areas in order to ensure that they achieve low levels of degradation in keeping with their protected status.

Support for protected areas is clearly aligned with multiple economic development policy goals and not just the achievement of conservation outcomes.

Protected areas and policy goals



The need for protected areas to generate their own income streams in order to supplement government grant funding is recognised by EWCA. Initiatives in this regard include:

- The imminent upward revision of EWCA's gate fees to bring them in line with internationally accepted rates.
- Diversification of tourism products and activities.
- Engagement with prospective investors in lodges and other tourism concessions.

- Projects to generate finance for reduced carbon emissions from forest degradation and deforestation in the Simien Mountains and Bale Mountains National Parks.

Continued focus on tourism-related income streams followed by carbon finance options makes sense. Other broad options such as donations and grants potentially through a trust fund mechanism, Payment for Ecosystem Services (PES) schemes and corporate and individual sponsorships are also worth considering and investigating further.



Increasing EWCA income

Once EWCA's new gate fees are introduced they should boost revenue from fees three or fourfold for the same number of visitors. Currently, there are only five lodges in three of the fourteen EWCA protected areas. A rough estimate indicates that the protected areas system has scope for the establishment of up to 45 additional lodges in the long term if adequate funding is provided.

Protected areas need to prioritise the generation of their own income streams in order to supplement grant funding.

Generating income often requires significant investment first as is the case with most businesses undertakings.

EWCA's role in protected areas management



EWCA is charged with the management of protected areas covering a total of approximately 3.9 million hectares. It administers the hunting industry, wildlife trade and wildlife law enforcement in and outside of protected areas. It also represents Ethiopia in international conservation fora such as CITES. Its mission statement is:

"To sustainably develop and conserve Ethiopia's wildlife resources through active participation of community and other stakeholders, to

bring ecological, economical and social benefits for Ethiopians as well as global community and pass to the next generation as a heritage."

Roughly 150 staff work at the EWCA head office in Addis Ababa and another 817 staff are posted to the various protected areas. Currently EWCA has a budget allocation of about ETB65 million excluding special provisions. It generated an income of approximately ETB30 million in the most recent year with a little more than half of this amount coming from hunt-



ing and one third from park entry fees. Aside from government funding and its own income, EWCA also

receives significant donor funding amounting to approximately US\$3.1 million in 2013.

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