



# BMCC II Aftercare Finance Mechanism Review

## 1. Background

A key response of land users to bush thickening is the removal or thinning of woody plants to restore the landscape (Smit 2004) and increase the carrying capacity of the land. However, many woody encroachers do not die after being removed and strongly regrow from the roots (Strohbach 1998). As a result, the positive effects of bush control are mostly short-lived and only persist for 5 to 7 years (Archer et al. 2017) after which the often-denser bush needs to be thinned again. If the land-use objective is the restoration of rangelands, post-harvest treatment of woody plants after bush control is vital to maintain the productivity of the herbaceous layer (Archer & Predick 2014, majority of interviewed experts).

Currently, only a very limited number of farmers are doing post-harvest treatments after bush thinning (DAS 2012). The main reason are the high upfront costs involved. Initial bush thinning efforts are often very expensive and further investments into post-harvest treatments are either not within the financial capacity of the farmer or not seen as justified. Based on the cost-benefit analysis, returns from post-harvest treatments are only seen after 4 to 5 years and can be considered relatively small compared to a commercial farmers' annual income in the short-term.

Farmers using an integrated bush management approach, including a post-harvest treatment plan, support the maintenance or improvement of ecosystem services of public value such as landscape aesthetics. This contribution to the maintenance of public goods is often not considered. Finally, there is only limited access to finance to fund post-harvest treatment plans. There is a need to find a sustainable funding source to incentivise and encourage the use of post-harvest treatment measures.

## 2. Potential Finance Mechanisms for Post-Harvest Treatments

### 2.1 Conservation Finance Mechanisms

#### Payment for Ecosystem Services

When combined with appropriate pre- and post-harvest measures, the thinning of bush can contribute to improving key ecosystem services in Namibian landscapes. Although some of these ecosystem services benefits are directly reaped by the custodians themselves (see CBA report), the landscape rehabilitation and biodiversity benefits associated with aftercare also benefit a broader group of people at a local, national and even global level. Payments for ecosystem services have been developed as a way to incentivize the maintenance or improvement of these public goods and services by the people living within the ecosystem, who bare most of the costs of maintenance.

**Payments for Ecosystem Services (PES)** are direct or indirect payments by a user or beneficiary of an ecosystem service to the provider of the service ("beneficiary pays principle"), whose land use decisions

affect these services: The provider of the service is paid for the maintenance and preservation of these services (UNDP 2016a).

A PES scheme has to rely on an assessment of the value of the ecosystem services maintained. Yet the value of ecosystems services and their contribution to human wellbeing and livelihoods are sometimes difficult to establish. The World Resource Institute has estimated the value of ecosystem services at USD 33 trillion per year. Water and carbon sequestration have the greatest potential for PES schemes (UNDP 2016a). Ecosystem services are generally categorised into four main groups (World Bank Group 2016):

1. **Provisioning Services:** Products humans obtain e.g. fish, freshwater, wild foods, medicinal plants and wood -amongst others.
2. **Regulating Services** include flood protection, water purification, climate regulation and erosion control.
3. **Cultural Services** includes aesthetic values and enjoyment, recreation and sacred areas (spiritual enrichment).
4. **Supporting Services:** Natural processes than maintain the other services e.g. photosynthesis, soil formation, pollination, primary production and nutrient cycling.

The PES can be based on the ecosystem type (e.g. wetlands, forest etc.), the four main services, the structure of the compensation (e.g. indirect or direct, private or public) and the geographical scale (local, regional, global) (UNDP 2016a). The minimum payment should adequately compensate for a loss in income or the costs of undertaking a specific beneficial activity. The maximum compensation should be equal to the value of the ecosystem service to society and not captured by the landowner. PES schemes can be tailored to public entities, businesses, communities, farmers and individual landowners (UNDP 2016a).

The payments to the provider of the ecosystem services can be financed through (UNDP n.d. a):

1. Direct payments of private beneficiaries e.g. water users paying farmers to carry aftercare measures ensuring better groundwater recharge
2. Indirect payments to an intermediary public institution, who disperse the funds for conservation on behalf of the wider public.
3. Mandatory fees and taxes.

Ideally these payments should be subject to the provision of the ecosystem service, which may be difficult to assess due to the time required for monitoring and evaluation (Output-Based Payments). Alternatively, payments can be based on the modification of specific practices (Input-Based Payments), which can be easily monitored (UNDP 2016a).

PES schemes around the post-harvest treatment of bush thinned areas could pay for the use of more environment-friendly post-harvest measures (biological control for instance) or keeping large trees in the landscape (Input-Based Payments). This could encourage a modification of behaviour to more sustainable practices. An example for Output-Based Payments would be a consortium of tourism companies investing into a fund to finance post-harvest treatment programmes in areas with high tourism potential to maintain a desired landscape for aesthetic reasons.

Another option would be the use of wildlife credits. Tourism operators could pay for increasing wildlife in a specific area from keeping the landscape open and diverse. This would mainly be an option for communal areas.

The Forest Stewardship Scheme in Namibia is trying to integrate a subsidy component for ecosystem services provided by farmers who engage into restorative practices. Although the details of implementation are not yet established, this subsidy scheme could be seen as a form of PES mechanism.

#### Advantages

+ PES support the conservation of an ecosystem by providing a financial incentive.

#### Disadvantages

- Ecosystem services must be valued in financial and economic terms. They are often undervalued.

- + The valuation of ecosystem services is closely tied to geographical and social context and allows for customisation to local circumstances.
- + Global advances and innovations reduce the costs of valuing ecosystem services and improved the reliability of estimates.
- + The positive incentive (opposing coercion) can encourage behavioural changes potentially creating transformational change.
- + Can correct market failures by giving a price to conservation efforts. It can be a source of cash income for rural communities.
- + Technical assistance and training related to these schemes can increase knowledge and encourage sustainable resource use.

(UNDP 2016a)

- Since there is no market for ecosystem services and biodiversity offsets, a regulatory authority must create an appropriate legal framework, which can be a lengthy process.
- An efficient PES scheme requires not only the willingness of private actors to pay for the services, but also the quality of coordination, the monitoring of interventions and disbursement of payments, which necessitate capacity from governments to mediate between buyers and sellers.
- Data to create a robust baseline and supporting information is a necessity and the economic valuation can be a difficult and costly process.
- Easily subjected to elite-capture and corruption.

(UNDP 2016a)

## Compensation Offsets

**Compensation offsets** are compliance-related instruments to compensate for activities that will have an impact on the environment. This includes both regulations, enforcement along a mitigation hierarchy and different offset strategies to reach a “net positive impact” (NPI) or “no net loss” (Meyers *et al.* 2020).

Compensation offsets can take different forms (Meyers *et al.* 2020):

1. In-kind compensation for unavoidable damages e.g. through on-site restoration
2. Purchase of offset credits
3. Payment of in-lieu fees that will be used to re-invest into the environment.



Key natural areas or environmental assets are identified before investing to avoid damage to these areas and to compensate for unavoidable damages caused. After following all steps of the mitigation hierarchy, compensation offsets should ideally be used to compensate residual impacts (Meyers *et al.* 2020).

Based on ECOIntelligent 2016

Biodiversity offsets are explicitly linked to specific projects causing a loss of biodiversity and are expected to fully compensate for negative residual impacts. It must thus be ensured that the “Net Gain” or “No Net Loss” is measurable, long-term and an addition to other ongoing conservation measures. They are a structured approach to mitigating biodiversity loss (World Bank Group 2016). Most current offset schemes are voluntary, but commonly used in sectors that change natural environments e.g. transportation, construction and extractive industries (Meyers *et al.* 2020).

Biodiversity offsets address the protection of species and ecosystems and are often distinct and separate from the original site of a project or activities. As a result, they may not be the most effective tool to compensate for localised losses of specific ecosystem services. Some localised or site-specific ecosystem services may not be replaced or sustained by off-site biodiversity offsets due to the physical distance or more stringent restrictions on resource use in the offset area. Other mitigation measures may be necessary to

assist affected communities instead of protecting a similar ecosystem through a biodiversity offset (World Bank Group 2016).

Biodiversity offsets within the framework of post-harvest treatment after bush control could involve large extractive industries such as mining operators to buy biodiversity offsets from neighbouring farms conducting sustainable bush thinning and appropriate post-harvesting measures. The offsets proceeds could then be earmarked for investment in post-harvesting treatments. At this stage, only bilateral agreements between private sector and custodians undertaking post-harvest treatment measures would be viable in the absence of a market for biodiversity offsets. Moreover, only specific post-harvesting measures, with proven (and quantifiable) biodiversity benefits, would be eligible for such financing.

## 2.2. Impact Investments and Blended Finance Tools

The impact investing and innovative financing movement has gained momentum over the past decade, with an increasing interest from asset managers to align markets with environmental and social impacts. As a result, the impact investment market has grown ten-fold in the past five years, reaching a size of US\$ 502 billion in 2019 (Mudaliar & Dithrich, 2019). In 2020, a group of 26 financial Institutions from around the globe launched the Finance for Biodiversity Pledge committing to protect and restore biodiversity through their finance activities and investments. This marked interest paves the way towards the creation of new categories of capital flows that target the optimisation of social and environmental impact. These tools range from crowdfunding to insurance and equity. They are also open to philanthropic, public and private capital investments as well as a combination of these through blended finance. This approach also identifies avenues to deliver the clarity required by funders, providing clear structures, predictable cash flows and transparent ways to assess risks and returns, for sectors that participate towards achieving sustainable development.

The development of clear frameworks to assess biodiversity and conservation (ESG) impacts of private investments could increase the access to international private finance for a multitude of projects with conservation benefits, such as bush thinning and post-harvesting measures. Although a large array of new sources of finance and new tools could develop in Namibian markets in the short-term, existing tools and platforms for blended finance already provide realistic financing approaches for post-harvesting measures. More specifically, it appears that preferential loans might be well adapted to the aftercare financing conundrum, while the Land Degradation Neutrality Fund might also provide opportunities to access impact investment markets in the short- to medium-term.

### Preferential Loans and Guarantees

**Preferential loans** are loans provided at an interest rate significantly below the current market rate. **Guarantees** refer to institutions (or private agents) committing to assume debt obligations if the borrower fails to pay back. A common guarantee mechanism is a government-guaranteed loan.

These credit enhancement tools can blend private and philanthropic or public funding, substantially reducing perceived investment risks, but also incentivising investment in activities with positive environmental impacts such as post-harvesting measures.

Some private and public financing institutions in Namibia offer loans for bush thinning. However, interest rates and collateral requirements often remain quite high, while none of these loans include environmental impact targets nor considerations for post-harvest treatment measures.

**AgriBank:** Offers financing products without limitations for various value chains but is mainly used for chemical or labour-intensive harvesting at an interest rate of 8% for commercial and 7% for communal actors. The loans are usually secured through mortgage on the farm. Applications are decided on an individual basis and products are offered for 15-year periods. **Post-Harvest Treatment plans could be directly integrated in**

the investment assessment criteria justifying the provision of the loan at a slightly lower rate than the one currently proposed (DAS 2015).

**Development Bank of Namibia** provides a loan for bush control between NAD 150,000 and NAD 10 million at prime interest rate over 10 years. It requires a minimum of 50% security (DAS 2015).

**Environmental Investment Fund:** The EIF created in 2012 is funded by government allocation and has the mandate to tap into environmental levies and conservation fees to support projects, individuals or communities to pursue the sustainable use of natural resources. The EIF provides both grant and loan funding. The loan is available to Namibian entities in primary and secondary production and can range between NAD 250 000 and NAD 4 million for 10 years at a prime interest rate of less than 3% (DAS 2015). To our knowledge the EIF has not yet invested in projects involving sustainable bush thinning. **With low interest rates proposed, EIF loans could incentivise sustainable thinning and environmental-friendly post-harvesting measures by lending to farmers under specific aftercare conditions and planning.**

**First National Bank** also has a bush thinning specific product focusing on farmers conducting aerial spraying to increase livestock carrying capacity. There are no limitations and the loan is valid for 10 years. The interest rate depends on the risk profile of the client (DAS 2015). **This financial product could be amended to integrate environmental impact targets, some public or philanthropic funding could also be blended with this product to decrease risk profile and interest rate.**

**Standard Bank** loans for bush thinning are available to all entities in primary or secondary production -except community organisations. The loans are extended for 5 years at minimum prime interest rate. The interest rate for aerial spraying differs and is at prime for secured loans and prime +3% for unsecured loans (DAS 2015). This financial product is a concern as it discourages a post-harvest treatment programme. **Preferential rate for aerial spraying should be abandoned and redirected towards sustainable bush thinning and conditions on post-harvest treatment plans.**

To incentivise the use of post-harvest treatments, a preferential interest rate could be given to lenders with a post-harvest treatment plan, which could justify the initial investment in bush thinning and ensure a desirable state is maintained in the long-term. This would however require government warranty or a donor to lower the interest rates.

#### Advantages

- + Encourage integrated bush management systems by linking initial control to post-harvest treatment plans to get a better interest rate.
- + If blending product with public / philanthropic finance, reducing risk perception and incentivise investment in sustainable thinning and innovative post-harvest measures.

#### Disadvantages

- Requires government or donor guarantee to secure lower interest rates.
- Limited access to finance for communal farmers who would require targeted financial products, often of smaller sizes (Micro-finance).

### Impact Investment: Land Degradation Neutrality Fund

Reaching Land Degradation Neutrality (LDN) by 2030 has become a global target and has been incorporated into the United Nations (UN) Sustainable Development Goals (SDGs). To achieve this target, considerable public financial resources were mobilised and should be complemented by long-term capital from private investors contributing capital, ideas and innovations. The United Nations Convention to Combat Desertification (UNCCD) through the Global Mechanism (GM) supports this by encouraging the development of an independent public-private partnerships (PPP) investment fund, the Land Degradation Neutrality Fund. The fund will support profit-generating activities that combat land degradation (Maillard & Cheung 2016).



**The Land Degradation Neutrality Fund** is an impact investment fund using public, private and philanthropic resources to support land restoration and sustainable land management projects implemented by the private sector (UNCCD n.d.).

The initiative is supported by anchor investors, institutional investors and de-risking partners including the European Investment Bank, French Development Agency, Private Investor Foundations, BNP Paribas Cardif and Garance, the Government of Luxembourg, IDB Invest and the Global Environment Facility. The target capital is USD 300 million of which USD 100 million has already been committed by various investors (UNCCD n.d.).

Currently, the Land Degradation Neutrality market -still in its infancy- mainly consists of sustainable use investments and land rehabilitation (Maillard & Cheung 2016) supporting projects in sustainable agriculture, sustainable forestry and agro-forestry as well as sustainable livestock management. Project applying for funds should create socio-economic and environmental benefits as well as financial returns (UNCCD n.d.).

Bush thinning and post-harvest treatment measures targeting the restoration of grasslands in Namibia are exactly within the eligibility of the Fund criteria of investment. The fund could provide loans and equities into bush utilisation projects with specific conditions and support for restoration targets. Further information can be accessed at : <https://www.idhsustainabletrade.com/landscapes/ldn-taf/>

#### Advantages

- + Considerable opportunities for collaboration on testing LDN projects to attract funding.
- + Development of “bottom-up” investment strategies to develop sustainable land-use programmes.
- + Potential for “top-down” investments from large corporations, who are under pressure to create responsible supply chains, which can also benefit small- to medium-scale producers.

(Maillard & Cheung 2016)

#### Disadvantages

- The LDN market is new and there is a shortage of investments with risk-adjusted returns, which deters private investors and leads to insufficient funding.

(Maillard & Cheung 2016)

## 2.3. Levies and Taxes

### Taxes

Taxes are payments where the distribution is not proportional to payments. The main aim is to increase the costs of activities that may damage the environment and thus incentivise stakeholders to reduce these activities. Imposing taxes combines the objectives of creating revenue and influencing incentives. They can be targeted to have a desirable impact e.g. a pollution tax to reduce pollution (Meyers *et al.* 2020).

The design of environmental taxes is crucial to its success. Taxes can incorporate environmental impacts into prices to address the failure of markets to do so. A market fails when it provides no incentive to consider environmental damages without public intervention, since the impact is spread across society and there are no direct costs to the creator of the environmental damage. An environmental tax -if well-designed- can increase the price of an activity or good to include the environmental harm imposed on others: internalising the environmental impact into the price (OECD 2011).

Within the Namibian post-harvest treatment context, increased import duties or increase in VAT for products considered harmful for the environment and biodiversity could be used to disincentivise specific measures. However, this might further disincentivise farmers to take any kind of post-harvest measure. A specific environmental tax on beef meat production could also generate funds to reinvest into sustainable land management and post-harvest treatments support services.

#### Advantages

- + Good track record: Have been widely used to address different environmental issues all over the world.
- + Give affected stakeholders flexibility in how they reduce their environmental footprint, which can incentivise innovation and allows market forces to find least-cost options.
- + The costs of implementing a tax are lower than the costs of enforcing regulations. There is an ongoing incentive to choose more environmentally friendly options and improves the competitiveness of low footprint alternatives.

(OECD 2011)

#### Disadvantages

- Increasing the costs of specific activities is likely to lead to some resistance and complaints. Especially as it creates a double cost for farmers who pay for aftercare.
- Most environmental taxes do not raise significant revenues for governments - especially since they are often below the value of the damage.
- Taxes often create a series of unexpected perverse incentives and market inefficiencies.

(OECD 2011)

## Levies / Trust Fund

Levies or fees are obligatory payments mostly to the government for specific services. The difference to taxes is that payments and benefits should be proportional. The fees are directed to a specific cause. Levies or fees are widely used and have been used in an environment- and conservation-related context (Meyers *et al.* 2020).

Levies or fees can be paid into Environmental Funds and provide financing for environmental actions (Meyers *et al.* 2020). These Environmental Funds are independent legal entities that mobilise, oversee the collection and allocate financial resources for specific purposes. This includes conservation trust funds, forest funds, wildlife trusts, climate funds -amongst others. They can also mobilise resources from donors, governments, the private sector and private citizens. It can facilitate the implementation of desired activities, solid monitoring and evaluation and ensures a high level of accountability and transparency (UNDP 2016b).

Trust funds are independent and transparent institutions, preconditions to attract donor funding. They should not undermine government functions or existing organisations. However, they can help to temporarily overcome capacity gaps within governments (UNDP 2016b).

The use of a levy and a fund has been detailed by Rothauge (2019) who developed a suggestion for an Aftercare Stewardship Scheme. A levy would be imposed on processes biomass products (e.g. wood chips, charcoal or potentially slaughtered livestock) and paid into a fund. This fund would then finance support services and research necessary for sustainable thinning and post-harvest management.

The establishment of a **Sustainable Land Management Trust Fund** could coordinate and attract different sources of funds for rehabilitation and restoration purposes, including research on the impact of different post-harvesting measures, and support to farmers in maximising the environmental benefits of thinning through pre- and post-harvesting measures.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>+ If a trust fund is well-designed it can improve the scale and effectiveness of environmental projects and align strategies among stakeholders reducing transaction costs for government, donors and implementing agencies.</li> <li>+ Increase predictability and reduce fragmentation of funding. Offer long-term investment options.</li> <li>+ Create a common strategic direction and national ownership.</li> <li>+ Strengthen project development, approval and implementation. Improved management of implementation and financial risks.</li> <li>+ Improved accountability in project implementation. Reduced corruption risk due to strong fiduciary management systems.</li> <li>+ Reduced transaction costs by creating economies of scale.</li> <li>+ Independent and flexible organisation that can react to emerging challenges. Can afford to invest in innovation.</li> <li>+ Provides a valuable forum for stakeholders to come together and discuss solutions.</li> </ul>	<ul style="list-style-type: none"> <li>- Establishing a trust fund can be a lengthy process and can create unrealistic expectations in terms of short-term mobilisation of resources.</li> <li>- Does not build capacity in financial management within government institutions.</li> <li>- Limited ability to do monitoring and measure the impact of investments.</li> <li>- If poorly designed, passthrough mechanisms can become overly complex and the disbursement of funds can be slow.</li> <li>- Overreliance on independent trust funds can lead to limited allocation of public budget.</li> </ul>
<i>(UNDP 2016b)</i>	<i>(UNDP 2016b)</i>

## 2.4. International Development Finance

### Donor Funding

Donor funding mainly describes multi-lateral and bilateral aid, which are flows of resources to developing countries and multi-lateral agencies. The main aim is to promote welfare and economic development - normally excluding grants or loans for commercial objectives and for military purposes. The grants often include technical assistance.

Germany through KfW is one of the largest government contributors for bi-lateral aid for biodiversity and conservation. Multi-lateral institutions such as the World Bank and Global Environment Facility (GEF) also provide financing for environmental activities (Meyers *et al.* 2020).

Donor funding could be used to initiate a post-harvest treatment financing programme but should be complemented by other sources and a larger scheme -since donors do not finance individuals.

Donor funding would have to be channelled through an existing or newly created institution responsible for administering funds dedicated to post-harvest treatments (such as a Trust Fund, as presented above), or through existing institutions such as the EIF.

Securing donor funding will be an essential step to finance research and piloting of innovative post-harvest treatment measures. However, it is not a sustainable source of finance and cannot be considered enough to finance the implementation of post-harvesting measures across bush thickened landscapes in Namibia.



Advantages	Disadvantages
+ Provides the required capital to kick-start operations and develop activities that can later be continued once appropriate structures and collaborative relationships have been established.	- International funding institutions have their own agendas and funding guidelines often not considering the local context (e.g. reluctance to support the removal of biomass even if it has negative impacts in the Namibian context).
+ Potential for knowledge, technology and innovation exchange.	- If incorrectly managed and structured, foreign aid can create dependencies. - Time-bound financing considered unsustainable in the medium- to long-term.

## Adaptation Finance

The contribution of bush thinning and appropriate post-harvesting measures to increasing the resilience of Namibian ecosystems to climate change cannot be undermined. It also contributes to improving the resilience of communities relying on these ecosystems for their livelihoods and directly influences the availability of groundwater – probably the most pressing adaptation issue for Namibia.

Maximising the environmental benefits of bush thinning through appropriate pre- and post-harvesting measures can thus be closely linked to adaptation benefits. International climate finance for adaptation is being upscaled by numerous institutions and could be directed towards the financing of certain aspects of post-harvest treatment development in Namibia, including research on the specific impact of bush thinning and post-harvest treatments on groundwater among else. Major sources of adaptation finance at a global level are presented below.

### EU Funding for Adaptation

The European Union committed to spending 25% of their budget for 2021 – 2027 (from 20% for 2014 – 2020) to climate-related expenditure and finances adaptation through a wide range of instruments. Climate adaptation must be integrated into all EU spending programmes, which is monitored to ensure the achievement of these objectives (EU 2020).

The EU fund both adaptation projects within the EU and outside its border. They are currently the largest contributor of climate finance in developing countries (EU 2020).

### Adaptation Fund

The Adaptation Fund was established under the UNFCCC in 2010 and has committed USD 720 million to climate adaptation activities funded by governments and private donors. The Adaptation Fund supports projects that help vulnerable communities in developing countries to adapt to climate change, who are often hit the hardest by the impacts of climate change and contributed the least (Adaptation Fund 2020).

A large part of the financing for the Adaptation Fund comes from the sale of certified emission reductions (CER) purchased by industrialised countries to meet their emission reduction targets under the UNFCCC (Adaptation Fund 2020).

Due to its focus on vulnerable communities, the Adaptation Fund is more suited for projects in Namibia's communal areas.

### Green Climate Fund

A key aim of the Green Climate Fund (GCF) is to build resilience in developing countries and support their climate change adaptation efforts with a special focus on particularly vulnerable communities. The GCF aims to balance adaptation and mitigation finance (50:50) but is currently mainly financing mitigation projects. Most adaptation related financing is going into adaptation planning processes and the development of National Adaptation Plans (NAPs).

Adaptation finance could also be used to finance research and pilot projects. Due to their focus on vulnerable communities, projects in communal areas are more likely to attract funding.

#### **Advantages**

- + There is paradigm shift from focusing entirely on mitigation to adaptation in developing countries, leading to greater funding opportunities.
- + Appropriate financing for research and pilots in communal areas.
- + Considerable scope for collaboration and securing considerable financing.

#### **Disadvantages**

- Most adaptation finance is focused on particularly vulnerable communities and may thus not be viable to encourage post-harvest treatments in commercial bush thickened areas.
- Application for the funding can be a long and tedious process.

### 3. References

- Adaptation Fund (2020). Governance. Adaptation Fund Website. <https://www.adaptation-fund.org/about/governance/>
- Archer, S.R. and Predick, K.I. (2014), An ecosystem services perspective on brush management: research priorities for competing land-use objectives. *J Ecol*, 102: 1394-1407. doi:10.1111/1365-2745.12314
- Archer S.R., Andersen E.M., Predick K.I., Schwinning S., Steidl R.J., Woods S.R. (2017) Woody Plant Encroachment: Causes and Consequences. In: Briske D. (eds) Rangeland Systems. Springer Series on Environmental Management. Springer, Cham. [https://doi.org/10.1007/978-3-319-46709-2\\_2](https://doi.org/10.1007/978-3-319-46709-2_2)
- DAS (2012) Survey development and implementation in preparation of a De-bushing Advisory Service (DAS), conducted by D. Honsbein for GIZ
- Debushing Advisory Service DAS (2015). Financing Bush Control. Based on the study "Assessment of Existing Incentive/Grant Schemes and Financing Products Relevant for Bush Harvesting and Value Addition that would contribute to the Establishment of an Industrial-Scale Biomass Industry in Namibia" (2015) by Business Financial Solutions (BFS), Windhoek, Namibia.
- ECOIntelligent (2016). Mitigation Hierarchy: Levels of mitigation in Environmental Impact Assessment. <https://eco-intelligent.com/2016/12/11/levels-of-mitigation-in-environmental-impact-assessment/>
- EU Commission (2020). Financing Adaptation. EU Website. [https://ec.europa.eu/clima/policies/adaptation/financing\\_en](https://ec.europa.eu/clima/policies/adaptation/financing_en)
- Maillard, S. & Cheung, R. (2016). Unlocking the Market for Land Degradation Neutrality. UNCCD and Mirova.
- Meyers, D., Bohorquez, J., Cumming, T., Emerton, L., Heuvel, O.v.d., Riva, M., and Victurine, R. *Conservation Finance: A Framework*, Conservation Finance Alliance, 2020, [www.cfalliance.org](http://www.cfalliance.org)
- Mudaliar A. and Dithrich H. 2019. Sizing the Impact investing Market, Global Impact Investing Network 2019.
- OECD (2011). Environmental Taxation – A Guide to Policy Makers. Based on Book: *Taxation, Innovation and the Environment*.
- Rothauge, A. (2019). Scoping Report - Developing an Aftercare Stewardship Programme for Bush Control and Biomass Utilisation Projects, Commissioned by the GIZ Bush Control and Biomass Utilisation (BCBU) Project
- Smit, G.N. (2004) An approach to tree thinning to structure southern African savannas for long-term restoration from bush encroachment, *Journal of Environmental Management*, Volume 71, Issue 2, Pages 179-191, ISSN 0301-4797, <https://doi.org/10.1016/j.jenvman.2004.02.005>.
- Strohbach, B.J. (1998) The effect of season and treatment on the survival rate and coppicing ability of five encroaching woody species, *Agricola*, pp. 99 - 105
- UNCCD (). An Impact Investment Fund for Land Degradation Neutrality. UNCCD Website. <https://www.unccd.int/actions/impact-investment-fund-land-degradation-neutrality>
- UNDP (2016) a. Payments of Ecosystem Services. Financing Solutions for Sustainable Development. <http://www.undp.org/content/dam/sdfinance/doc/Payments%20for%20Ecosystem%20Services%20%20UNDP.pdf>
- UNDP (2016) b. Environmental Trust Funds. Financing Solutions for Sustainable Development. <https://www.sdfinance.undp.org/content/sdfinance/en/home/solutions/environmental-trust-funds.html>
- World Bank Group (2016). Biodiversity Offsets: A User Guide. <https://www.cbd.int/financial/doc/wb-offsetguide2016.pdf>