

# Financial incentives promoting afforestation in Uganda's drylands

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Forest related enterprises such as tree nurseries are a source of employment especially to women and youth, contributing to improved livelihoods. Photo: FAO



***"Encouraging farmers to plant trees supports the restoration of degraded landscapes."***

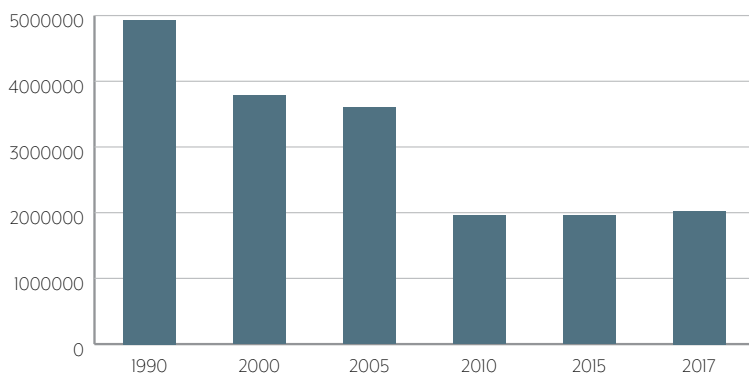
## Introduction

Forests play an important role in economic, ecological and social development. They provide a wide range of products and ecosystem services, are home to many native species, and make a critical contribution to climate change mitigation. In Uganda, according to the Forest Investment Program (MWE 2017), the total economic value of forests to the national economy is estimated at more than US\$160 million per year, or 5.2% of GDP, with the indirect benefits of forests through watershed protection and carbon sequestration valued at US\$16 million and US\$15 million per year, respectively.

Uganda's forests are threatened by increasing pressure from the growth of commercial and subsistence agriculture; unsustainable harvesting of firewood, charcoal and timber; and expansion of human settlements. The country's forest estate shrank from 4.9

million hectares (24% of the country's land cover) in 1990 to 1.9 million ha (9%) in 2015 — a loss of three million ha in 25 years (Figure 1). This deforestation and forest degradation has resulted in a loss of biodiversity, affecting the ecological resilience of landscapes and their ability to provide ecosystem services. The latest data available from the National Forestry Authority (NFA), however, indicate a levelling off of forest loss since 2010, and even a slight increase in forest cover in 2017.

**Figure 1: Forest cover change in Uganda (hectares), 1990–2017**



Source: NFA (2019)

## Impact of deforestation and forest degradation

Uganda's drylands cover only a relatively small part of the country, mostly in the north, dominated by pastoral rangelands. The northeastern arm of the drylands, in Karamoja Region, is the driest part of the country, with an annual rainfall of 400–700 mm (MWE 2016). Karamoja's population is highly dependent on subsistence agriculture and pastoralism; these main livelihood activities also have social and cultural significance. But as a result of this dependence on livestock rearing and rainfed crop cultivation — which are two of the most vulnerable sectors to the impacts of climate change — the region suffers chronic food insecurity. This is due to the combined impacts of high levels of poverty, low human development, unfavourable climatic conditions, and changes in temperature and rainfall over a 35-year period (Chaplin et al. 2017). The erratic weather means that farmers are less able to depend on historic weather patterns, which leaves them increasingly vulnerable to food security and climate shocks such as droughts and floods.

Globally, there have been significant efforts to promote dryland afforestation, although with mixed results (FAO 2015). There is, however, growing evidence that when planned and managed appropriately, dryland afforestation initiatives can deliver positive results. Participatory approaches in planning and implementation, empowering local communities through capacity building and supporting them to secure land-use rights are seen as key ways to enhance local ownership of afforestation projects, which is important for their success.

## Use of incentives in promoting investment in afforestation

The extent to which local communities perceive the potential financial benefits from afforestation is an essential factor in the success of such programmes. Basing such initiatives on the assumption that conservation can motivate rural communities to plant trees, because environmental degradation threatens their existence, has often yielded limited results. The most important motivation for tree



Technical support is important to provide guidance to farmers on how best to manage their forest plantations, such as here, where a FAO staff member demonstrates how to measure a tree’s diameter to a forest manager.

Photo: FAO

planting by rural communities and individuals is an expected financial return. Forestry investment in drylands is however constrained by the slow growth of trees due to soil and climatic factors, the comparatively low opportunity cost of land, and limited income-generating options.

Often, commercial forestry is not perceived as a feasible investment because of the relatively long payback period. Unless the public sector leverages private finance, for small producers in particular, commercial forestry is not sustained. Nevertheless, a range of indirect incentives are available to policy makers to promote such investments. Enabling measures, such as institutional changes, along with variable incentives such as those related to input and output prices, can increase the profitability of an enterprise (Mortimore 2004). Cash grants and concessionary loans have proven effective in more developed countries, including interest-free loans, government grants, long-term low-interest loans, direct subsidies, and low-interest and export credit loan subsidies. However, a significant challenge with incentive initiatives that are mainly financed by public funds is their long-term sustainability.

### **The Sawlog Production Grant Scheme**

The Sawlog Production Grant Scheme (SPGS) project was conceived within the broader government policy framework of promoting sustainable forest management through a combination of public protection and investment in private forests. In 2002, the Government of Uganda secured €12 million from the European Union to implement the Forest Resource Management and Conservation Programme, of which €1.92 million was to pilot the country’s first private-sector forestry funding initiative: the Sawlog Production Grant Scheme, implemented by the Food and Agriculture Organization

of the United Nations (FAO). The aim was to support private-sector investment in establishing timber plantations to help bridge the gap in national wood supply that was putting increasing pressure on native natural forests.

This pilot phase was highly successful; more than 10,000 ha were planted, including demonstration plantations in strategic areas to raise awareness of plantation forestry. Following these initial successes, the EU funded two additional phases. Now in its third phase of implementation, SPGS has supported the establishment of more than 70,000 ha of plantations by farmers and large private-sector entities as well as communities and institutions for the commercial production of timber, poles and fuelwood. The plantations are located throughout the country, including in drylands, where several tree-planting interventions have in the past had limited success.

The difference between SPGS and previous efforts that used environmental protection as their primary objective is that there is a perceived financial benefit from participating in tree planting—a grant payment—in addition to future financial returns from timber sales. A supportive policy and legal framework, through the government's policy on leasing public degraded forest land to private developers and community groups, promotes private-sector involvement in forest management. This was a key factor in the success of the SPGS project because it addressed the lack of access to land that creates a barrier to extensive afforestation.

## How the SPGS model works

The scheme has three principal components: financial support, inputs/planting materials, and technical support.

**Financial support:** Beneficiaries are paid an estimated US\$250 per ha planted for smallholders and medium-scale farmers (up to 500 ha), and US\$160 for larger companies (up to 3,000 ha), to partly cover initial investment costs, which are estimated at US\$720 for the first two years. The grant is based on the principle of co-investment; i.e., beneficiaries must have their own funds and be willing to invest. The higher grant for small- and medium-scale landholders is aimed at encouraging more participation by this category of beneficiaries. Payment is made on verification of planted trees and ensuring of compliance with minimum plantation establishment standards.

**Inputs/planting material:** This component is targeted to smallholders with between 0.2 ha and 5 ha, and with limited ability to invest financially in forestry. Beneficiaries are provided with tree seedlings or cuttings, which constitute a large proportion of the cost of plantation establishment. In Uganda, the cost of improved seed, particularly for exotic species, is relatively high because they are not produced in country and have to be purchased from international commercial sellers. For example, a single kilogram of *Pinus caribaea* seed can cost as much as US\$1,300. Beneficiaries are further supported by extensive training to improve their technical skills in forest management.

**Technical support to service providers:** This support targets capacity building for service providers in the forestry plantation industry. In particular, the scheme includes a programme for developing and promoting forestry contractors and tree nursery operators. Through a voluntary certification scheme, service providers are audited annually by the project and issued a certificate if they are in compliance. The checklist for auditing a tree nursery operator includes compliance with use of improved seed, minimum health and safety standards for workers, and the health and vigour of planting material.

Tree farmers are encouraged to buy their seedlings only from certified tree nurseries as a way of ensuring high-quality planting material.

### Promoting afforestation in Uganda’s drylands

One of the shortcomings of the first and second phases of SPGS was that no specific attention was paid to promoting forestry in drier parts of the country, despite their being the areas most severely affected by climate change. During the third and current phase, an action was instituted to encourage farmers in Karamoja to participate in tree planting (see Box). Among the key interventions to achieve this, the first was a quota system during beneficiary selection, with 600 ha allocated to Karamoja. In addition, there was a campaign to promote afforestation in the region, raising awareness through mass media, targeted training courses, and establishing demonstration and learning sites to show good practices. Capacity building was further supported through the certification of service providers such as tree nursery managers to ensure the production of quality planting material.

One challenge to forest investment in Karamoja is that the most commonly grown commercial tree species in Uganda, notably *Eucalyptus grandis* and *Pinus caribaea*, do not grow well in most parts of the region, with the exception of limited areas that have better rainfall and environmental conditions. This constrains investment in dryland afforestation. To address this, the project supports research in dryland silviculture, working closely with the National Forestry Resources Research Institute. Research trials for dryland species — including *Melia volkensii*, *Gmelina arborea*, *Terminalia brownie* and drought-resistant eucalyptus clones — have been established. The preliminary results indicate that the use of adapted tree species can be scaled up in future dryland restoration programmes.

#### An experience from Karamoja

Jacob Elisha Ongom is a 72-year-old retired teacher. With support from the third phase of the SPGS project, he ventured into tree planting in 2018. “When I started out, many in my family and community questioned why, at my age, I would be interested in a long-term venture like tree planting, especially as our semi-arid land is not seen as supporting tree planting. I chose to wear an entrepreneur’s hat because we take risks, and today, cynics are in awe that my investment is thriving. My forest plantation investment will not only meet my future needs but also those of my children and grandchildren. Since I had no prior knowledge or experience in tree growing, much of my learning has been on the job, boosted by training, technical advice and field visits.” Jacob owns a 5.6-ha eucalyptus plantation, which has also created jobs for some youth in maintenance activities such as weeding and preparing fire breaks.



Jacob Elisha Ongom (right) in his two-year-old eucalyptus plantation. Photo: FAO/ Peter Ssekiranda



A happy farmer proudly shows off her six-month old eucalyptus forest planted with support from FAO.  
Photo: FAO/ Ivan Arinaitwe

## Impacts

The FAO-SPGS project has supported the afforestation of more than 70,000 hectares with timber plantations, and has distributed more than 10 million seedlings to local communities over a 15-year period, at a cost of some €36 million in total, including the pilot phase. Due to a lack of formal records of the extent of the national commercial forestry estate, the figures above are based on unpublished reports, desk studies and field assessments. Recent reports on changes in forest cover (Figure 1) point to an increase in forest cover, which is attributed to tree planting, especially by the private sector and communities. In addition, rural employment opportunities have improved, both within the forests and in the support services that commercial forestry attracts. An evaluation of the commercial forestry industry in Uganda estimated that up to 12,000 jobs had been created in the upstream value chain by 2014, including in plantation establishment; and the number of jobs was expected to increase exponentially with the development of downstream processing. The most significant impact, however, is probably the increased level of confidence of the private sector to invest in plantation development. Through their umbrella body, the Uganda Timber Growers Association, private forestry investors are continuously advocating for improving investment in the country.

## Lessons learned

### Incentives to stimulate forestry investment

From a financial perspective, restoration projects often have high up-front costs and long timelines before reaching profitability. Using public and non-profit finance for the first few years can therefore help them obtain traditional private-sector investment and become more competitive in the financial

marketplace (FAO and UNCCD 2015). For such incentive schemes to be successful, however, certain key principles have to be adhered to.

### **Enabling legal and policy framework**

To stimulate forest development, governments must create the right environment for investment through supportive policies that address the barriers that constrain private-sector investment in forestry. As an example, the government policy of leasing degraded public forest land to private developers made forestry investment in Uganda more attractive to private investors, who were able to acquire land for planting trees. For every hectare of land leased to a private developer, 15% is reserved for the local community under collaborative forest management to enable it to participate in forest management.

### **Strong administrative approach and adherence to quality standards**

Performance-based grant payments ensure value for money in addition to promoting good silvicultural practices. This approach means that rather than advancing money to farmers and expecting them to plant, farmers use their own money and are repaid for the trees they plant. And since the farmer/beneficiary must contribute some of the initial investment capital, and does not receive repayment until after the trees are planted, the risk of funds being diverted to activities other than forestry is significantly reduced. Performance-based payments also ensure adherence to quality standards.

### **Sustainability of financing for forestry investment**

The successful implementation of afforestation programmes requires access to stable, reliable and long-term funding. Although grants and subsidies may be appropriate for covering startup costs to make forestry investment more attractive, subsidies alone tend not to be a sustainable financing mechanism. Funding gaps are likely to persist unless other innovative financing models are explored, such as credit financing from development banks to provide low-interest loans with long repayment periods. A sustainable forestry investment financing strategy should include a combination of funding from national environment funds, climate finance, development cooperation, other national budget areas, private-sector investment, NGOs, and non-traditional sources such as crowdsourcing (FAO 2015).

### **Interventions and capacity development**

To deliver value to local communities, afforestation programmes must also address challenges at various parts of the value chain, from tree nurseries to tree planting, harvesting, processing and marketing. In addition, capacity development through training is needed, with research and development to provide data and information on the costs and returns of forest investments. Evidence-based research that takes into account local needs and realities is an important requirement to reduce the effects of any unintended negative impacts of plantations, such as biodiversity and water security concerns.

## **Conclusions**

Financial incentives are essential in the initial stages of plantation establishment to trigger interest in forest investment, and these incentives have put Uganda ahead of its neighbours in East Africa in terms of plantation development. However, subsidies alone are not enough. Funding gaps are likely to persist unless other innovative financing models, mechanisms and instruments are explored, such as credit financing from development banks to provide low-interest loans with long repayment periods.

A good measure of an incentive's success is if it can be phased out as the plantations grow, being progressively replaced by indirect incentives such as interest rate policies, general taxes and trade policies.

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