

## **A Case Study on Ensuring Sustainable Management of Planted Forests**

### **The Economic, Social and Environmental Role of Commercial Plantations in South Africa**

By

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#### **Abstract**

The South African commercial forestry sector, which comprises mainly of exotic plantations, is dynamic and sophisticated. The industry is active in rural areas and already a major contributor to local economies and poor people's livelihoods. Its development has, however, largely excluded black people from the benefits it has generated.

The industry has the potential to grow significantly. However, changing trends and market requirements resulting from the industry's need to expand and remain competitive are compelling it to fundamentally alter its approach to business. This creates possibilities for the rural poor to participate in a successful industry, and to share directly in its wealth.

The industry's future demand for raw material can only be met from new afforestation of communally owned land. Companies cannot own this land and must enter into agreements with local people to develop this potential resource. This provides an opportunity for rural communities to utilise their land as a capital asset and use it to generate income and wealth.

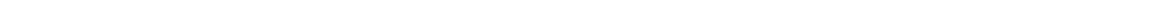
The forest products industry in South Africa is increasingly outsourcing the supply of raw material in order to concentrate its efforts and financial resources on its core functions of processing. Companies are considering transferring their land and crop assets to local ownership under arrangements, which ensure them supply of raw material. Furthermore, industry is contracting out direct labour activities. This provides new opportunities for smaller entrepreneurs to render services to the forest industry. These opportunities although having a number of constraints that need to be addressed are significant in size and location for the poor.

The Government together with Donor agencies and relevant stakeholders has embarked on an initiative to use forest plantations as a tool for economic development. The objectives include increased ownership of forest resources amongst poor non-traditional forest owners, new effective market-based links created between the industry and the rural poor, improved industry standards and practices for contractors in the sector; and providing business support services to the rural poor rural and small, micro and medium size enterprises (Smmes) to facilitate participation in forest based enterprises.

However this initiative is taking place in tandem with government's commitment to a protected environment. Plantations that are environmentally sensitive are converted and managed as natural forests and where possible the management of both plantations and indigenous forests falls under one manager. Conservation and sustainable use of forests is promoted to achieve multiple benefits and

equitable distribution. South African government believes that it is important to adopt an integrated approach in managing forests.

The New Partnership for African Development (NEPAD) process has provided opportunities for the forest industry players to share their experience, but also exploit trading opportunities with the rest of the African Continent.



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## **1. CURRENT EXTENT AND HISTORY OF PLANTATION ESTABLISHMENT IN SOUTH AFRICA**

### **1.1 Emerging concepts for Sustainable Forest Management (SFM) in South Africa**

The period of democratisation, following the end of apartheid in 1994, has seen a recognition and adoption of internationally recognised concepts of SFM by the various players in the South African forest industry. Government has fundamentally re-defined its role and its 1996 White Paper recognises the multiple benefits of planted forests along with the industry's environmental and social responsibilities. Through a participatory policy process the South African government has the means to draw upon international and local perceptions of sustainability, and through its Forest Act, and the use of criteria, indicators and standards (C, I and Ss), effective regulations are being put in place.

The forest industry is a willing partner in the establishment of appropriate C, I and Ss for sustainability. The South African pulp and paper industry, and more lately solid wood processing industry, have become export orientated. Increasingly markets are calling for certified forest products and South African companies have responded by certifying 85% of its plantations - the highest level of certification by any country in the world.

In defining social sustainability in South Africa, the needs of poor rural communities living adjacent to plantations are being recognised. From a culture of paternalism, the industry is exploring new forms of community-private sector partnerships. It is recognised that the only remaining areas suitable for significant plantation expansion lie on communally-owned land in some of the most under-developed parts of the country – often alongside State-owned plantations which are currently being privatised. To unlock this potential, in the best interests of poor people living in these areas, partnerships will need to be brokered. This is one of the greatest challenges facing the South African industry today.

### **1.2 Overview of commercial plantation resources in SA**

South Africa presently has a commercial plantation estate of approximately 1.5 million ha or 1.2% of the total land area. Despite its relatively small size, the plantations are generally extremely productive, occurring where growing conditions are favourable and supported by extremely high standards of silviculture and tree improvement. Consequently the plantations support a large wood processing and value adding manufacturing sector, which makes a significant contribution to South Africa's economy.

Plantations are concentrated in a relatively small area of the country, essentially in provinces where rainfall exceeds 800 mm per annum, specifically in Mpumalanga, Kwazulu Natal, Eastern Cape, Western Cape and Limpopo Province. In terms of the species: 52% of the total plantation estate is under pine, 39% under eucalyptus, just over 7% under wattle with the balance comprising other species such as poplar for match manufacturing. The historically state-owned plantations have primarily been geared to the production of sawlogs whereas the privately owned plantations were mainly established for the production of pulpwood.

South Africa's plantation area continues to increase. The pace of afforestation in recent years has however decreased from the late 1980s and early 1990s when it reached a peak of 45 000 hectares in 1991. Since 1996, new afforestation has proceeded at a level of around 11 000

hectares per year, constrained largely by a limited availability of land either in terms of water use regulations or in terms of insecure land tenure.

(Mayers et al 2001)

### **1.3 Ownership of plantation resources in SA**

Prior to the onset of the privatisation process in 2000, of the current area of 1.5 million ha, the state owned approximately 30%, two large companies (Sappi and Mondi) owned 47%, smaller private companies and individual white farmers 22%, and approximately 1% was owned by several thousand small growers on the “out-grower” models which have been developed including Sappi’s Project Grow, Mondi’s Kulanathi scheme and the co-operative schemes by NCT and SAWGU.

Since the onset of privatisation the following initiatives have changed the State’s ownership position dramatically:

- ❑ 20% of the State’s plantations have so far been transferred to private sector consortia. Well-established South African forestry companies are majority shareholders in both cases.
- ❑ A further 18% of the State’s plantations have been earmarked for conversion to alternative land uses, including nature conservation and land reform.
- ❑ A further 45% of the State’s plantation estate is currently subject to disposal tender processes (as at January 2003).

It is realistic to expect that within three years all the State’s plantations will either be transferred to private sector management or subject to land-use conversion processes.

The only remaining significant area of land in the country which is unafforested but suitable for tree planting is in the Eastern Cape province on communally-owned land which is still subject to land tenure reform. Despite various attempts to establish plantations in these areas there has been only very limited success to date. Supporting afforestation initiatives in these areas is a major thrust of current Government and donor support.

## **2. BENEFITS OF PLANTED FORESTS**

### **2.1 Economic overview**

From an effective base of zero in the 1940s, South Africa now produces 2.8 million tons of pulp or 1.63% of global supply, 2 million tons of paper or 0.76% of global supply, and 1.8 million m<sup>3</sup> of sawn timber or 0.3% of world supply. In terms of South Africa’s GDP, the forestry and associated processing industries generate US\$ 1 billion annually or 1.5% of GDP. Both the “formal” and more “informal” forest products markets from plantation forests are described in more detail as follows:

## **SAWMILLING**

The sawmilling industry in South Africa utilises 4.4 million m<sup>3</sup> of logs to produce 1.8 million m<sup>3</sup> of timber. About 60% of sawn timber production is processed into a range of final products, 4% is exported, with the balance going into structural timber and the construction industry. In addition to sawlogs, pine thinnings in many parts of the country are supplied to the pulp mills or board manufacturing plants. Sawmills range in size from large operations with a log intake in excess of 200,000m<sup>3</sup> p.a. to small-scale mills, with an intake of less than 5,000m<sup>3</sup> p.a. (Mayers et al 2001)

## **PULP AND MINING TIMBER**

Much of the drive behind the establishment of hardwood plantations (predominantly Eucalyptus species) was the need for mining timber. Whilst this demand still remains it is declining as it becomes substituted for cheaper materials. Much of the timber planted for mining is now being diverted to pulp. From its earliest beginnings, but particularly in the last three decades South Africa's pulp and paper industry has expanded rapidly, with an average growth rate of 5.2% per annum since 1970. The industry currently produces around 2.1 million tons of pulp of which over 30% is exported. The remaining 1.4 million tons of pulp are combined with 670,000 tons of waste paper to produce 2 million tons of paper and board. The value of the pulp and paper industry in 2000 was estimated at around R10 billion (US\$ 1.4 billion). The industry directly employs 13,000 people in its various mills and an estimated additional 17,000 workers are employed in timber production, harvesting and transport. (Mayers et al 2001).

## **POLES**

The South African pole market is estimated to consume 750,000m<sup>3</sup>, split equally between gum and pine. The markets for treated and untreated poles include transmission and telephone poles, agricultural uses, particularly in terms of fruit farming, and construction.

(LHA Management Consultants 2001)

## **LOCAL CONSTRUCTION**

In most rural parts of the country, communities have depended heavily on plantations as a supply of building materials. The main products sought are poles for construction and lathes used for traditional wattle and daub construction. Either Eucalyptus sp. or wattles (*Acacia mearnsii*) are the preferred species. The latter is widely sourced from naturally occurring "wattle jungles" which tend to be escapee plants that have invaded communal areas from plantations.

In the former homeland areas eucalyptus poles are sourced either from the large commercial plantations which often had gum compartments within them which were managed for community use – or from the community woodlots which were planted for that purpose.

## **FIREWOOD**

Plantations provide an important source of firewood for neighbouring communities. Traditionally communities have had access to collect headloads of deadwood. With regard to State forests the right to continue this practice is enshrined within the Forest Act, even after privatisation.

Plantations also support an important firewood industry, whereby traders collect firewood by the truckload and sell it into local markets. For this use consumers are charged a fixed rate per truckload. These informal firewood enterprises are reported to support as many employees as the plantation itself in some cases.

#### **NON-TIMBER FOREST PRODUCTS**

Plantations are also known to supply a number of other non-timber products. On a commercial - albeit small - scale there are resin-tapping operations on coastal *Pinus elliottii* stands, collection of *Casuarina* sp. needles for processing into turpentine substitutes, mushroom picking, and collection of ferns and other flowering plants for the florist business. Plantations (and their associated adjoining indigenous forests) provide an important supply of medicinal plants for traditional healing, thatching grass, access points for water supply and open areas for cattle grazing.

### **2.2 Environmental benefits**

Within their plantation estates, plantation companies also manage an estimated further 500 000ha of unplanted land consisting of wetlands, indigenous forests, grasslands and infrastructure which they are obliged to manage for biodiversity and watershed protection.

Plantations and their associated indigenous forests (where they are well managed), play an important role in catchment protection, soil conservation and maintenance of stream flow and water quality. There is also evidence to suggest that plantations have played an important role in directly protecting the indigenous forests from over-utilisation. From the way in which the plantations were established they often form a physical barrier of access to the indigenous forests and provided an alternative supply of products, which has taken pressure away from the natural resource.

Traditionally conservation was a primary responsibility of forest managers. Foresters actively managed mountain catchment areas, nature reserves, established wilderness areas and reclaimed drift sand areas. The current demarcation of "State Forest land" includes large tracts of non-forested conservation land and reflects a time when "Forestry" was seen to be the lead conservation agent in the country. There is a current restructuring initiative to redefine the conservation status of non-forest land and transfer responsibility for its management to dedicated conservation agencies.

### **2.3 Social Benefits**

#### **ACCESS FOR CULTURAL, RECREATIONAL AND SPIRITUAL USE**

Both plantations and their associated indigenous forests provide important facilities for access for "recreational, cultural and spiritual use". The public at large has rights of access to any state forest for the above purposes subject to reasonable management control to protect against fire and to secure health and safety requirements. It has been recognised that these benefits should be enjoyed into the future even after the State plantations have been privatised.

## **COMMUNITY COLLECTION OF FOREST PRODUCTS**

On State Forests the Forest Act provides for free access by neighbouring communities to collect sustainable supplies of fuelwood and non-timber forest products including firewood, building materials, wild foods and medicinal plants for household use. Access and use rights enjoyed by local communities in privately owned plantations have not been researched for the purposes of this paper.

## **EMPLOYMENT**

The forest and forest products industries employ about 152 000 full-time staff of which 46 000 work in forests and 106 000 in the forest products sector. Of these, approximately 50 % are unskilled or semi-skilled. The organised forest industry claims that each job created within the sector results in four others in supporting industries. Thus the sector contributes about 600 000 jobs to the economy, which, assuming a dependency factor of 5, means that about 3 million people, mainly rural, depend on forestry for their livelihoods.

A trend in the industry is to outsource most forest operations. More than 15,000 people are employed by contractors. The move from direct employment to contracting has been accompanied by some job losses as well as a decline in wages and working conditions, resulting in an adverse effect on workers in the short term. The trend does however offer an important avenue for creation of new black-owned enterprises in rural areas.

## **PROVISION OF INFRASTRUCTURE**

The forest industry has traditionally provided housing, education, medical, recreational and other social infrastructure. Most companies are however moving away from providing such infrastructure with the onset of contracting out of labour and land tenure reform which grants workers occupational rights to land where their reside.

The organised industry estimates that it has invested about R500 million in infrastructure for its employees, and that it spends about R50 million annually in the maintenance and improvement of these facilities. This includes about R10 million annually on the maintenance of district and provincial roads.

## **DIRECT PARTICIPATION IN TIMBER GROWING**

Approximately 19,000 households are involved in small-scale commercial timber production, mostly in KwaZulu-Natal province. Although accounting for less than 3% of the national plantation resource, the economic contribution made by small growers in certain rural communities is significant.

### **3. CHALLENGES**

The industry's future success, and the direction it takes, will be fundamentally determined by its ability to respond to:

- International Market trends

- ❑ Biosecurity
- ❑ Opportunities for expansion (new afforestation and investment in processing)
- ❑ Water and land-related legislation

### **3.1 International Market trends**

Since the 1950s and 60s the South African forestry industry has moved away from a focus on self-sufficiency and meeting domestic demand towards an international market focus. The pulp and paper industry has led this movement, followed more recently by the solid wood processing sector. With increasing international exposure South African companies are experiencing the following pressures:

- ❑ Price volatility
- ❑ Price competition with countries whose industries are heavily subsidised by Government (such as Canada) or whose resource is under-valued (such as the former Soviet Union)
- ❑ Shifting trade global patterns (for example the declining market of Japan and the strengthening market of China)
- ❑ Requirement for certification, particularly from Europe and North America.
- ❑ Exchange rate fluctuations

The net effect of the above at plantation management level is to keep silvicultural standards high, operating costs low and provide for certification to meet ever-changing market requirements.

### **3.2 Biosecurity**

South African companies have developed some of the highest standards of silviculture in the world, particularly in the area of tree improvement for the pulp market. South African companies rely heavily on clonal material, and with this trend comes an ever-increasing vulnerability to a disease outbreak. The organised industry is calling on Government to assist with measures to control the importation of potentially infectious foreign material.

### **3.3 Opportunities for expansion – new afforestation and development in processing**

As referred to previously, there are areas in the country that could sustain increased afforestation, such as the Eastern Cape. The land in Eastern Cape, however, is mostly communally owned and using it for forestry requires complex negotiations around benefit flows within the community and between the community and the private sector. Furthermore, new afforestation in these areas needs to be done in conjunction with the industry investing in plant. South Africa is fortunate to have a well-developed domestic forest processing industry with a track record in large-scale domestic investment. However the enabling conditions for such investment require adequate infrastructure, large scale resources to be internationally competitive and access to large amounts of affordable capital. South Africa has seen the recent development of chip export facilities which provides alternative markets to small growers, however there is a sense that there is room for another pulp mill which would be a significant engine for growth and expansion of the industry in poor rural areas.

### **3.4 Water use policy and legislation**

South Africa is a water-scarce country. A new National Water Act was promulgated in 1998. The Act guides responsible authorities in the issuing of water use licences. Forestry is subject to this legislation in that all tree growers require licences for new afforestation over 10 ha, although existing plantations do not need to be licensed. The industry has identified Government's delays in issuing permits as the single greatest barrier to new afforestation.

### **3.5 Land reform**

In terms of land the following issues are relevant to the future of the industry:

- In terms of land restitution, the outcome of settling all current land claims on plantations will determine the long term role of communities in the future of the industry. If communities can receive tangible benefits from forestry then this would create a stable platform for long-term management of the resource and may encourage the release of more communal land for afforestation. If communities do not perceive any tangible benefits then the long-term sustainability of many of the plantations is at risk.
- In terms of land tenure reform there has been a vacuum in legislation for the past eight years. A new Tenure Reform Bill is now in circulation, which deals with the upgrading of informal tenure rights. This could have a direct impact on plantation managers, as it will recognise patterns of resource use and occupational rights as real rights. The current position is one of uncertainty. There is not yet clarity on who will come forward claiming what rights. Uncertainty is always a disincentive to investment, so from a forest management perspective managers will be likely to adopt a "wait and see" approach and behave cautiously in terms of investment and developing multiple use activities within the plantations.

## **4. TOOLS FOR SFM**

### **4.1 Criteria, Indicators and Standards**

The South African forest industry has traditionally maintained high standards for environmental management within its plantations. The voluntary "Environmental guidelines for the Forestry Industry" have been in place for a number of years and have acted as a useful platform from which certification can be achieved. South Africa has become a world leader in certification of commercial plantations for sustainable forest management. The larger companies have committed themselves to the standards of sustainability set by the Forestry Stewardship Council and/or the International Standards Organisation. To date 85% of its plantation area is already certified, the highest of any country in the world.

Certification schemes in South Africa have so far been developed without a legislative framework and a national set of criteria, indicators and standards for certification. However Government introduced a new National Forest Act in 1998. The Act requires the Minister to develop criteria, indicators and standards (C, I and S) for sustainable management of all forests. There is an ongoing consultative process to develop the C, I and S for different forest types. Those that will apply to commercial forestry plantations are close to finalisation. The process has received widespread support from the private sector which is not altogether surprising when South Africa boasts such high existing levels of certification. The most notable challenge to ensuring the use of C, I & S as the predominant regulatory instrument for sustainability in South Africa is the small scale emerging tree grower-sector. The cost of maintaining the necessary management systems required by current certification schemes are prohibitive for small growers.

South Africa is therefore having to work with the private sector and the SA Bureau of Standards to see if a tailored monitoring system can be developed to meet the needs of this sector.

## **4.2 Afforestation Permit system**

The most direct regulatory instrument governing forestry is the water use licence issued in terms of the new National Water Act of 1998. It is currently the perception of the private sector that one of the most urgent interventions required from Government in terms of forestry is to improve the administration of this licensing process.

Due to a lack of hydrological data in many catchments and the consultative inter-departmental arrangements which need to be followed to process applications, most parts of the country have experienced significant delays in recent years. There is however a Government initiative designed to remove some of these obstacles in order to enable new afforestation in poor rural areas such as the Eastern Cape where water catchments are not stressed. A Strategic Environmental Assessment (SEA) will be undertaken to provide adequate hydrological and environmental data against which groups of applications at a catchment level can be processed speedily.

## **5. FACILITATION**

### **5.1 Forestry policy and an NFP planning framework**

Democratisation, following the end of apartheid in 1994, required a fundamental re-working of Government policy across all sectors in South Africa. Following a wide-based consultation process the White Paper on Sustainable Forest Development was launched in 1996. The policy's overall objective is to promote a thriving and sustainable forest sector, encompassing all components of forestry, not just commercial forestry. Key policy areas identified include:

- Promote equitable access and wider ownership of forest resources
- Limit the negative environmental impacts of existing and new afforestation
- Promote new afforestation
- Privatisation of state plantations
- Promote research and development and technology transfer for efficiency
- Monitor forest health
- Develop new legislation
- Report on the State of Forests

In 1997 a National Forestry Action Programme (NFAP) was developed through a consultative process in order to develop strategies for policy implementation. Despite such a full policy agenda the South African Government has made good progress towards many of these policy objectives. Government introduced a new National Forest Act in 1998. The Act provides for the development of Criteria and Indicators for sustainable forest management as the basis for future regulation and provides a range of legal instruments by which the State can engage with other role players in the management of State forests, both planted and natural. Areas where less progress has been made include monitoring forest health, promotion of research and development and technology transfer. A new National Forestry Programme (NFP) planning cycle is currently being initiated as the vehicle for policy review and strategic planning for the sector.

## 5.2 Privatisation

In late 1998, government formally approved an approach to privatise all its plantation assets. This included both those of the former homelands which are currently managed by the Department of Water Affairs and Forestry (DWAF) and those of the former RSA which were corporatised into the State owned Enterprise (SAFCOL) in 1993. This privatisation involved a phased approach entailing dividing all the plantations under its ownership into three general categories:

- ❑ Category A - The entire SAFCOL estate (386 476 ha) combined with distinct adjoining DWAF plantations (70,000 ha).
- ❑ Category B - The balance of the commercially viable plantations remaining under DWAF's management extending over approximately 70 000 hectares.
- ❑ Category C - Approximately 110 small scattered plantations (or woodlots), extending over 17 000 hectares established to provide communities with building material and fuelwood.

The combined SAFCOL/DWAF Category A assets were divided into seven 'packages' (later re-packaged as five packages). Investors were invited to bid for a 75% shareholding (of which at least 10% needed to be black owned) in any combination or all of the seven packages. Progress to date is as follows:

- ❑ Two of the five packages have been transferred to private companies comprising approximately 95,000 ha of plantation.
- ❑ Two further packages, comprising approximately 65,000ha are at preferred bidder stage and the transactions are expected to be closed during 2003.
- ❑ The final package comprising approximately 200,000 ha, is being re-tendered for the third time, in the hope of closing a transaction in early 2004.

Approximately 65,000ha have been earmarked for land use conversion from forestry predominantly to conservation land use. Most of this area is in the Western Cape, where the oldest plantations were established but where it has become recognised that the growing sites are not commercially viable. Most of these areas will be restored to their natural "Fynbos" vegetation cover which represents a significant contribution to the protection of the Cape Floristic Kingdom which is acknowledged as one of the most important biodiversity hotspots in the world. Elsewhere in the country two blocks of 10,000ha are being removed specifically to contribute to the protection of important water catchments and areas of high biodiversity, namely the Greater St. Lucia World Heritage Site and the catchments feeding the transfrontier rivers which feed the Kruger park and neighbouring Mozambique.

Within the transactions land will not be sold, but rather leased to private sector bidders. Lease rentals will be paid to Government who will then distribute them to under-lying land rights holding communities. Certification according to an internationally recognised accreditation agency is also a requirement of the category A leases.

The Category B plantations are to be restructured along similar lines, but are being packaged individually or in small groups, to encourage participation by small emerging previously disadvantaged investors and operators. The Category C plantations (or woodlots) are being transferred directly to communities, with Government acting in future as support agency rather than manager on the ground.

### 5.3 New afforestation initiative

As has been referred to previously, Government (with donor support) is embarking on a co-ordinated strategy to encourage new afforestation on communally-owned land in non-stressed water catchments, particularly in the Eastern Cape. Experience from neighbouring KwaZulu Natal Province suggests that significant benefits can accrue to poor households through participation in outgrower schemes. Many variations on existing models of joint venture can be tried and tested to maximise community benefit and ensure sustainability.

It is further believed that if a resource base can be established in these areas it will create the critical mass of fibre required to justify large scale investment such as in expansion of sawmilling or board processing capacity or even a pulp mill. The perceived obstacles to developing a resource on communal land are perceived to be:

- The water licence permitting system
- Security of land tenure
- Investor confidence and attitude to risk in these traditionally underdeveloped areas
- Infrastructure.

Government's strategy is to attempt to remove all these obstacles. Government intends to broker joint venture arrangements between private companies and communities, and inter-departmental agreements at national and provincial level to enable the development of supporting infrastructure.

## 6. Conclusion

South Africa has a full policy agenda relating to the future development and management of planted forests. Sustainability is the over-arching principle which has guided the development of this agenda. Good progress has been made since 1996 to implement strategies which address this policy agenda. Partnerships between Government, communities and the private sector are being forged. These policies and strategies are in line with the international forestry agenda as articulated through the United Nations Forum on Forestry (UNFF). There is still much to be done, particularly in the area of developing forestry policy capacity within government, and in co-ordinating research and development and in reporting. However the institutional arrangements have been put in place and experience is being gained continually. The enabling environment for sustainable forestry development for economic growth which benefits poor people at minimum cost to the environment, particularly in terms of water use and biodiversity looks set to be in place.

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