

Strategic Framework for the Forestry, Timber, Pulp and Paper Industry

1.0 Introduction

Strong economic growth is fundamental to the government's objectives of halving poverty and unemployment by 2014. In order to achieve these objectives, **the** National Industrial Policy Framework (NIPF) document sets out a number of programmes and interventions that must be undertaken in order to accelerate economic growth rates to above 6% by 2009. Amongst the measures are (1) the need to identify new priority sectors that have the potential to substantially contribute to employment and economic growth and (2) to promote broad-based industrial growth characterised by greater levels of participation by historically disadvantaged people and marginalized regions in the mainstream of the economy.

The forestry, timber, pulp and paper (FTPP) sector has been identified as one of the sectors with high growth potential and one that offers opportunities for the participation of black economic empowerment companies and economic development of the poor, and most particularly, rural areas of the country. The importance of the sector has been reinforced by the explicit reference to the industries made by the President in his two last annual reviews as well as by the emphasis placed by the Minister of Water Affairs and Forestry on the contribution that forestry can make to jobs and income in rural areas.

This document puts forward a strategy framework for the accelerated development of the forestry, timber, pulp and paper industries in South Africa. It addresses components in the forestry value chain and provides a framework for addressing constraints to development. It is based mainly on the deliberations of a government–industry forum, the forestry, timber, pulp and paper (FTPP) forum, consisting of the Departments of Water Affairs and Forestry, Agriculture, Environmental Affairs and Tourism and industry representatives from Paper Manufacturers of South Africa (PAMSA) and Forestry South Africa and convened by **the dti**. The forum’s main objectives were to consider the strategic significance and development potential of the industries. In order to achieve its objectives, the forum commissioned an independent study, undertaken between October 2004 and June 2005 by a consortium led by Genesis Analytics, of the so-called triple-bottom-line i.e. economic, social and environmental impact of the industries and their opportunities for future growth.

The strategic framework document is also based on consultative discussions between the dti and the following institutions: the Eastern Cape Development Corporation (ECDC); the Eastern Cape Department of Economic Affairs, the KwaZulu Natal Department of Economic Affairs, the Presidency, the Department of Public Enterprises, several local government entities in the Eastern Cape and KwaZulu Natal as well bilateral discussions between **the dti** and industry representatives.

This document outlines the opportunities and constraints available for new plantation forests as well as for downstream beneficiation activities and makes proposal on measures necessary to deal with constraints for the sustainable development of the industry. It also deals with skills development and technology transfer in the forestry value chain and the need to restructure the existing state forests. The estimate of figures used in this report is based on numerous research studies and some have been averaged or rounded up.

2.0 Strategic Importance

A study undertaken by Genesis Analytics [1] concluded that the forestry, timber, pulp and paper industry is a major contributor to GDP and employment having accounted for R12.2 billion in GDP in 2003 and 170 000 in direct employment, equivalent to 1% and 1.4% to GDP and direct employment respectively. The sector is also the 8th largest contributor to exports, which totalled R11 bn in 2003. Of the total employment, 106 300 is generated from plantation forestry (37,000 permanent, 30,000 contract workers and 31,500 small growers employing 7,800 workers), typically in poor rural areas where few alternate jobs exist. Plantation forestry provides the main raw material for the primary processing industries with less than 0.5% imported mainly for use in the furniture industry. The high transport costs, the inconvenience in delivery times and the different standards (length) make it economically difficult to import sawn timber.

Plantation forestry is an important strategic sector because of its ability to provide job opportunities and as the main raw material to primary processing industries. The growth and sustainability of the downstream industries to forestry can only be achieved through the reliability of supply of raw material. The bulk of the existing plantations are short-rotation hardwood that is destined for pulp mills, timber-board, mining timber and poles.

The increased economic activity that is currently being experienced in the construction industry has resulted in the demand for timber exceeding supply, a situation that is expected to continue in the medium term to long term. Opportunities for high value furniture manufacturing are limited by the availability of long rotation solid wood, whose demand at present exceeds supply, a trend expected to worsen in the future. Measures to address the supply

of saw-logs need to be undertaken for the long-term viability of the furniture manufacturing.

The importance of the FTTP sector is underlined by the fact that South Africa is a world leader in the technology and sustainable management of plantation forests and is home to several world-class pulp and paper companies. A Price Waterhouse Coopers survey [3] rated Mondi and Sappi 13th and 18th respectively in the world in terms of turnover in 2004. Sappi Saiccor is the world's largest producer of dissolving pulp. Thus, South Africa has a sufficiently competitive pulp and paper-manufacturing base from which to build on.

3.0 The Current State of the Industry

The forestry value chain can be classified into three main areas: (1) plantation forestry, (2) primary processing industry and (3) secondary processing industry. Primary processing includes sawmills, pulp and paper, treated and dried timber, chipboard manufacturing, floorboards and mouldings, while secondary processing industries consists of furniture and construction products like doors, windows etc. The industry value-chain can be classified into the following sub-sectors: forestry plantations, saw milling, timber board, mining timber, treated poles, charcoal and pulp and paper. Excluding exports, plantation forestry, as the main raw material supplier to processing industries is one of the main drivers of growth to these industries.

The total planted commercial area in South Africa was estimated to be 1.33 million hectares in 2003 covering 1.3% of the country's total surface. This has been decreasing due to a number of factors, including withdrawals of forestry from riparian zones and wetlands, veld fires and a decrease in new investments in areas where there are land claims pending.

Plantation forestry, dominated by Sappi and Mondi with a combined 40% of total planted area and government at 26% is the major employer in the value-chain with employment estimated at 106,000 in 2003 broken down into 37,000 large and medium growers, 30,000 contractors and 39,000 small growers including their employees. Sappi and Mondi provide financial and technological support to about 18,000 contract growers who in turn commit to supply them for a certain period.

The sawmilling sub-sector is the second largest contributor to employment, with about 20,000 people employed in 2003 and contributing about R1.3 bn to GDP. The five largest companies have a combined market share of about 51% with the smaller and micro saw mills producing sawn timber of lesser quality due to factors ranging from informal nature of the enterprises, lack of equipment, outdated equipment, technological processes and skills development.

The pulp and paper sub-sectors are the biggest contributor to GDP estimated at R6bn in 2003, with direct employment estimated at 13,000 whilst also providing about 10,800 opportunities for recycled paper collectors. The high capital requirements for pulp manufacturing have resulted in only two companies, Sappi and Mondi owning the manufacturing facilities. The current shortage and reliability of raw materials places a further constraint on attracting new entrants to pulp manufacturing. The output from the existing pulp mills is supplied to the five large paper manufacturers with a significant percentage of the production (32%) exported. The five large players in paper manufacturing contribute about 96% of paper production, with the rest coming from recycled paper.

The rest of the sub-sectors, timber board, mining timber, treated poles and charcoal contributed a combined R1.2 bn to GDP with employment estimated at 19,000. Due to the vertically integrated nature of the industry, a number of these processing operations are mostly integrated into the saw milling operations

The industry is vertically integrated with all the larger players in saw milling, furniture, pulp and paper production owning their own plantations. Whilst this situation enables the security of supply for downstream processing players, it also creates an unfavourable situation in that: (1) smaller players experience problems in securing supplies especially at the current environment where the demand exceeds supply and (2) it creates barriers to entry for other companies in downstream processing industries as it increases the risk of not securing raw material if those companies do not operate their own plantations.

The vertically integrated nature of an industry combined with high levels of concentration at the horizontal levels could create an incentive for firms to restrict output, raise prices, collude or foreclose non-integrated firms from accessing vital inputs. Whilst this report does not recommend action at this stage from a competition policy perspective to deal with the challenges, there is however, a case for the competition authorities to keep a close eye and be vigilant on an ongoing basis not only from a conduct perspective but mergers in this sector should also be closely scrutinised.

The high economic growth rates experienced in the past few years, especially in the construction industry, coupled with negative growth in commercial plantations has resulted in the installed capacity of primary processing industry exceeding the supply of raw materials. It is inevitable that some of the facilities have to close down resulting in job losses unless efforts are made to encourage imports in the short term especially from the neighbouring countries. However, reliance on imports in the long-term poses risks and is unlikely to be sustainable.

3.0 Strategic Framework

The Genesis Analytics report identified constraints that must be considered and opportunities that can be exploited to accelerate the growth in the forestry, timber, and pulp and paper sector. Following discussions with various stakeholders, this strategic framework for the development of the forestry, timber, pulp and paper sector has narrowed the list down to four critical elements that need to be addressed.

This growth framework deals with four main elements that must be addressed for sustained and accelerated growth of the forestry, timber, pulp and paper industries:

- **Increase supply of raw materials (fibre).** Three principal sources for maintaining and increasing the availability of fibre have been identified as follows: (1) increase in the afforested area; (2) rehabilitation and improved management of the existing forestry through accelerated restructuring of categories B and C of the existing DWAF plantations and (3) increased use of recycled paper through dedicated efforts by both government and private sector to increase the percentage of recoveries.
- **Ease supply constraints to downstream processing activities.** A number of saw millers and furniture manufacturers (independent) do not own their own plantations and have to rely on existing plantations that in the case of saw milling also own similar operations. This result in some of these companies experiencing difficulties in securing timber for processing. This situation is compounded by the fact that for logistical reasons it is sometimes not economical to supply small orders.
- **Increase downstream processing activities.** The vertically integrated nature of the industry means that smaller players do not participate in higher value-added activities. The capital requirements of internationally competitive pulp and paper mills coupled with the vertically integrated

nature of the industry have prevented smaller players from participating in this area of activity. However, there is scope for smaller players to participate in waste paper recycling which This document advocates for the development of support measures to encourage the participation of BEE and SME companies in further downstream beneficiation activities.

- **Technology Transfer and Skills Development.** The Forestry Charter being developed will speed the transformation of the sector and should result in increased ownership of forestry and downstream processing assets by historically disadvantaged groups and communities. Initiatives should thus be developed for skills and technology transfers to these group.

3.1 Increase supply of raw material

Plantation forestry is an important element in the forestry value chain not only for its ability to create jobs in rural areas but also as the main raw material supply, apart from water and electricity, to downstream industries. The ability of saw millers, furniture manufacturers; pulp and paper manufacturers to operate depend on the availability of timber. The vertically integrated nature of the industry means that independent small and medium enterprises in saw milling and furniture manufacturing are the worst affected by the scarcity of supply.

The increase in the supply of fibre is thus the pre-condition for the sustainability and expansion of downstream activities. The supply of timber needs to be addressed from both the short to medium term perspective of ensuring the availability of supply to independent manufacturers and the long-term perspective (new afforestation) of ensuring the long-term sustainability of supply to small and large enterprises. In the short to medium term, measures need to be put in place to ensure that small and medium sized enterprises in downstream processing activities get a fair and adequate allocation of timber from plantation forests. Although these measures will not address the increase in available raw

materials, they will alleviate the problems being experienced by the smaller players. In the long term, the allocation of licences for new plantations should aim at ensuring that independent smaller players in processing activities get a fair and adequate share of timber.

A special situation exists in the case of the solid wood sector, which supplies the construction and furniture industries, which are already in supply deficit. The shortfall in supply will have to be met by imports, which in the case of furniture will be manufactured products thereby depriving the country of local beneficiating opportunities. The situation is exacerbated by the fact that this is typically the long rotation softwood (18–30 years), which increases the time horizons for returns and hence the investment risk. This consideration is reinforced by the fact that most of the area suitable for new softwood plantations is in communally owned land.

The long payback period required for investments in long rotation softwood is likely to discourage both the communities and the large role players in the private sector from investing. Historically, the government has been the major investor in long rotation plantations. While raw material imports could supply the industries in the short to medium term, it is in the country's interest to support the development of long rotation plantations in the long-term. The government either needs to continue investing in long rotation plantation forestry or to develop support measures to encourage investments in long rotation plantations.

3.1.1 New Plantations

Potential. Our approach to new plantations is to initially focus in the Eastern Cape (EC) and KwaZulu-Natal (KZN) provinces as they have been identified as offering the best potential for new forestry. Conservative estimates for potentially available land for new afforestation in the EC vary between 60,000

and 90,000 hectares, excluding the possibility of converting the estimated 18,000 ha of wattle jungle into commercial plantations. This new afforestation has a potential to produce an extra 242,000 tons of timber, create about 26,000 jobs at plantation level and contribute R128m to GDP. The impact at the processing level in the form of possible woodchip and timber board plants is estimated to be an additional 300 jobs with a contribution of R129m to GDP.

The KZN land available for new afforestation is estimated conservatively at 40,000 hectares with potential job opportunities of about 15,000 at plantation level and 400 jobs at processing level and a contribution of R484m to GGP.

In the Eastern Cape, DWAF has commissioned a strategic environmental assessment (SEA) to assess the potential for new afforestation and its relative costs and benefits within the Water Management Area 12, located in the eastern portion of the Eastern Cape province. We propose that this study needs to be extended to include all areas that have been identified as offering a great potential for new plantations. In cases where the land has been identified as suitable for new afforestation and an assessment clearly shows that forestry plantation has clear economic and social benefits as opposed to other uses, the government (especially the provincial and local government), possibly through existing agencies needs to play a big role in supporting small growers and communities financially or technically to apply for licenses and to establish and maintain plantations. A similar process was undertaken in KZN jointly by DWAF and the private sector to identify large tracts of community-owned land suitable for plantation from environmental, social and economic perspectives.

The bulk of the potential new afforestation is on communally owned land and in some areas there are land claims and tenure issues pending. It is possible that some of the communities who own land may not be interested in plantation forestry but may prefer to use the land for other purposes e.g. agriculture, cattle grazing etc. Whilst the potential for new afforestation can always be assessed

relative to other uses of land in terms of costs and benefits, the communities could base their decisions on historical uses. Thus, the realisation of this potential depends to the extent to which the communities are prepared to consider other uses of land besides agriculture and grazing. It is vital therefore to make every effort to encourage and find ways to ensure that new owners continue with timber plantation operations.

Regulatory Process. Plantation forestry is classified as a stream flow reduction activity, resulting in a more complex, stringent water licensing process than that for other activities. The cooperative governance-based regulatory system has had unintended consequences of long delays and the creation of uncertainties in the licensing process. Whilst DWAF has done a lot of work in reducing the lead times, there is scope to reduce these further with the commitment of other partners.

Smaller players do not always have the capital resources and are unwilling to invest the limited capital resources in the application process. We believe that the implementation of regulations should be in such a way as to minimise the cost and risk of doing business especially for poor communities and small and medium enterprises that in most cases have very limited capital resources, if any at all.

A more generic issue, although not germane to the growth of the industry but relevant to the overall performance, relates to the water licensing system to manage the impact of waste discharge of pulp and paper mills into the water catchments. This strategic framework recognises that water resources are limited and that it is necessary to promulgate regulations to cater for the various demands on water resources e.g. biofuels, forestry, mills etc to reduce the environmental impact of these industries. However, these need to be implemented in a way that will not have an adverse effect on the viability of the industries.

The licensing process needs to be simplified and measures put in place to reduce the costs of applying for licences especially for potential small growers and community grower schemes in other parts of the country. The grower maps initiative undertaken in KZN and the strategic environmental assessment in the Eastern Cape are expected to streamline the licensing process. Special institutional arrangements for dealing with the licensing process are necessary for realisation of the potential for additional forestry.

The recommendation is that, a committee or task team endorsed by the cabinet, under the leadership of DWAF be appointed to review the regulatory processes, identify bottlenecks and develop measures or proposals to substantially reduce lead times and costs of applications. The membership of this committee should comprise representatives of industry bodies and government departments including Departments of Environmental Affairs and Committee, Land Affairs, Agriculture, Public Enterprises and Trade and Industry.

This committee's mandate should also include:

- Review the water licensing process for pulp and paper mills and develop mechanisms to lessen any negative impact on industry development;
- Investigate the type and size of incentives or support necessary, if any, that government can provide to assist community based growers and especially those targeted at encouraging solid wood, long rotation plantation required for construction and furniture industries;
- Facilitate the establishment of task teams or steering committees to accelerate the processing of licences in the provinces with forestry plantation potential where these do not already exist. In provinces where there are existing structures, the committee should engage with these and provide support if needed.

3.1.2 Rehabilitation of existing DWAF plantations

The DWAF owns certain plantations in the Eastern Cape classified as category B and C plantations. Category B plantations consists of 27,000 ha of pine (16,665ha), eucalyptus (3,0000 ha) and 7,650 temporary unplanted, while Category C with 7,200 ha consists mainly of pine plantations of which 28% of the total area plantation area is not utilised. It is believed that these plantations are poorly managed; they produce yields below average and some tracts of available land are not planted. These plantations can be rehabilitated through afforesting the temporary unplanted area and improving yields on current plantations. Rough estimates of the rehabilitation programme indicate that output could double not only at the plantation level but also at timber processing level with substantial increase to employment and GDP contribution.

Two possible scenarios exist to develop this potential. The first is for DWAF or one of its agencies to inject sufficient capital and human resources to improve management and increase yields. A detailed business plan needs to be conducted to determine the required investment and its impact on employment and growth. The great advantage in government or appointed agencies rehabilitating and managing the forests is that they may have more interest and increased ability to take risks and plant long rotation wood compared to private sector players. The second option is to accelerate the restructuring of these forest assets either through transferring the management or through outright disposal to private companies and/or communities. One of the major issues in this case is that in some of the state owned plantations, land claims have been lodged, making it difficult to proceed without the resolution of the claims. It is therefore important that the resolution of these land claims should also be accelerated. The other major issue is the advent of the land tenure legislation and tenure claims, which may arise there from (CLARA).

3.1.3 Waste paper recycling

The paper recycling industry in SA is well developed with approximately 40% of fibre used in the production of paper from recycled fibre. However, a potential exists to increase the supply of recovered fibre for reprocessing and thus create new business opportunities for small independent mills either to expand the existing facilities or to create new ones. The waste paper recycling creates opportunities for increased employment for small business enterprises involved in collection of waste paper. It is estimated that the formal schemes for collection of recycled fibre (“buy-back centres”) provided employment to about 10,000 people in 2004. This is besides the company employees and outsourced owner-drivers formally engaged with the large companies.

3.2 Ease supply constraints to independent saw millers

Saw milling is a very important stage in the forestry value chain as it processes the timber to supply to the construction and furniture industries. The Genesis study estimates that the saw milling industry contributed about R1.3bn to GDP in 2004 and employed in excess of 20,000 people. The sector can be broken down into three categories; large sawmills, small sawmills and micro mills.

While most of the large sawmills get most of the supply from their own plantations or from long-term arrangements with plantation owners, a number of the independent saw millers (small and micro) rely on the existing plantation forestry owners or auctions or supply from state owned forestry company, SAFCOL for their inputs. Due to their small orders, some of the saw millers are experiencing problems in ensuring the availability of supply as they are at the lower end of the scale in terms of priority. In addition, they cannot participate at auctions due to minimum requirements required. Besides the saw millers, the independent small furniture manufacturers are facing the same problems.

The unreliability of supply to independent small mills increases the risk of these companies closing down and the resultant loss of jobs. Increased new plantations

in the long-term can rectify this. However short-term measures are necessary to reduce the negative impact on job losses. Two possible measures in the short term are:

- State owned plantations playing a larger role in ensuring that the small and micro saw milling companies get an equitable share of allocations. The long-term contracts that lock in customers need to be reviewed and scrutinised. From a competition policy perspective, the terms and conditions of sale faced by small and large scale saw millers should be investigated to determine whether there is any anti-competitive behaviour.
- Encourage and support timber imports destined for downstream processing, especially from the neighbouring states.

3.3 Skills Development and Technology Transfer

South Africa is recognised as one of the world leaders in the technology and sustainable maintenance of plantation forests, with more than 80% of plantations attaining Forest Steward Council (FSC) certification, a worldwide certification with regard to principles and standards on environmental impact, land use and other practices. The yield of South African plantation forests is estimated to be more than two times higher than those of similar plantations in some northern hemisphere countries and comparable to other southern hemisphere countries. Sappi and Mondi are regarded as world leaders in selective breeding and cloning of eucalyptus species.

Over the past few years, a number of plantations have been transferred or licensed to small independent growers or community grower schemes. Through the implementation of the Forestry Charter, the streamlining of the regulatory processes, the transfer of existing state owned plantations to small growers and

community based grower schemes; we expect an increase in plantation share of these groups.

It is accepted that a majority of these groups lack the capital resources, the skills and the technological know-how to manage the plantations to their full potential. Some small grower schemes in KZN are aligned to the big players (Mondi or Sappi) who provide financial and technical support. Skills development and technology transfer should be implemented in conjunction with the issuing of new licences and the transfer of existing plantations to small growers and communities.

It is therefore important that a skills development programme be drawn for this purpose. This programme needs to go beyond the training in plantations to incorporate the transfer of modern technologies processes for plantations and processing activities. The technological support needs to look at both the yields and the quality of supply. Our ability to produce high value added products; especially in furniture manufacturing will also depend on the quality of timber supply. At the plantation level, the two largest companies, Sappi and Mondi have played a big role in developing the small growers through their small grower schemes. This has however been limited to areas where the small growers could supply the pulp mills owned by these companies.

Government, the Forest Industry Education and Training Authority (FIETA) and the larger players should work towards developing a skills development and technology transfer mechanism for the smaller players. This programme or a similar programme should be extended to include other downstream activities in the forestry value chain. In addition to this, use should be made of our teaching or research institutions that have developed expertise in the sector to enable small enterprises and community groups to achieve the relevant skills and technologies.

3.4 Increase downstream beneficiation activities

As mentioned above, plantation forestry is the foundation for a number of downstream processing activities including wood chips, saw milling, timber board, charcoal, furniture, pulp and paper. The furniture, pulp and paper industries are at the higher end of the value chain. Several research papers and documents have shown that the economies of countries that have grown fastest are those that have moved towards higher value added manufacturing activities. The following diagram (figure 1) illustrates the multiplying value effect of moving higher up the value chain.

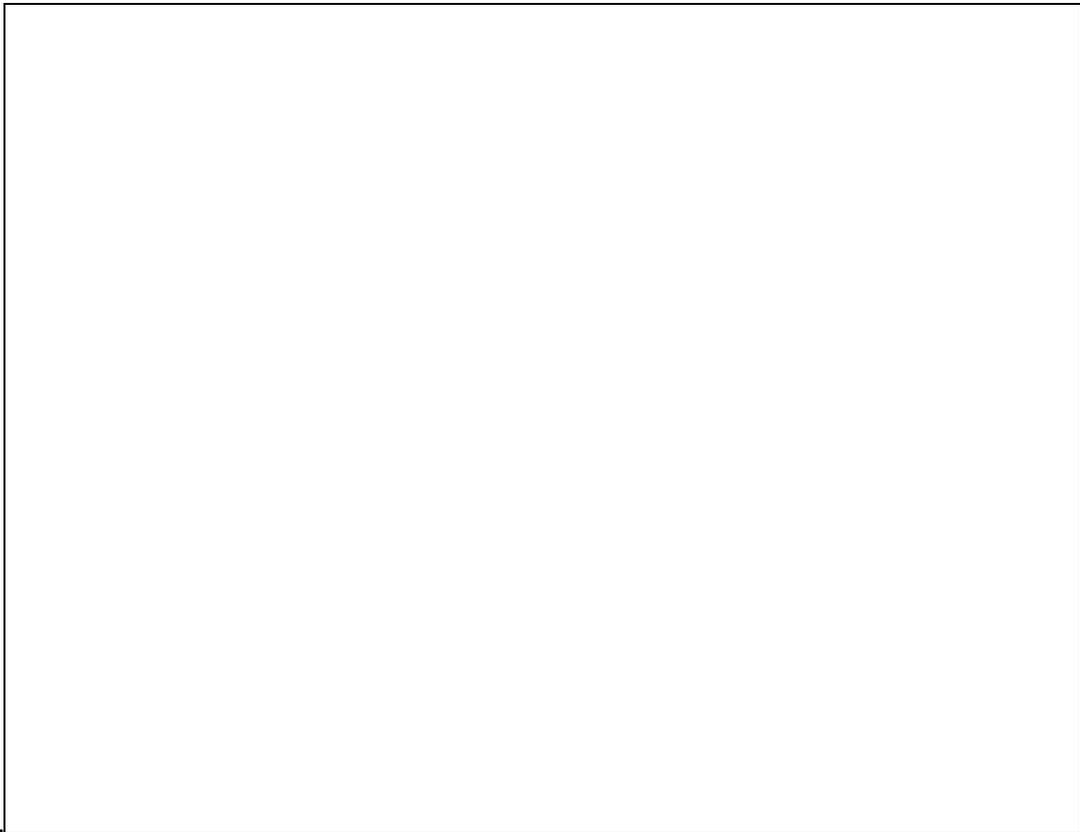


Figure 1: Levels of value addition (source: UNIDO)

The vertically integrated nature of the industry (limits the availability of wood fibre) and the high capital requirements presents barriers for new entrants in pulp manufacturing. Although there are only two pulp manufacturers in SA, we believe that no special support measures are necessary to increase either the number of pulp mills and the number of players in the industry. The increase in the number of larger independent players in plantation forestry should in the long-term act as a catalyst for one or more pulp manufacturing facilities. The integrated nature of the industry also places entry barriers on paper production requiring virgin fibre inputs with the four largest manufacturers (Sappi, Mondi, Nampak and Kimberly-Clark) producing about 96% of paper products while the rest of paper manufacturers get their input material from recycled paper.

Increase in timber processing is directly related, with time lag, to the increase in plantation forestry. Currently, the small players do not participate in value-added activities. If the regional economies are to grow, efforts must be made to encourage processing and attract investment in the areas closer to plantations. Furthermore, road transportation of timber is expensive compared to rail or sea and becomes economically less viable for distances beyond 200km. It is recognised that most of the increase in new plantations in KZN or those areas of Eastern Cape closer to KZN could supply the existing pulp mills in KZN but should also stimulate the development of a new saw mill or chipboard manufacturing in the area. The area with the most potential in the EC is not linked by rail or sea to KZN, which would have been an economically viable mode of transport. This certainly presents opportunities for timber processing before transporting.

Whilst the lack of rail transport presents opportunities for further beneficiation, rail transport remains the most critical element in the development of the industry as it will integrate the plantation and processing areas with the developed nodes and reduce the cost of transporting products.

The large capital requirements for pulp and paper manufacturing mean that it is unlikely a facility of this kind will be developed in the Eastern Cape in the near future. The opportunities for downstream processing activities for timber processing lie in saw milling, woodchip milling plant, wood waste processing and furniture manufacturing.

Currently, a large volume of wood chips from independent manufacturers is exported, mainly to Japanese manufacturers. These wood chips could be further beneficiated locally in the form of an additional pulp mill or supplying the existing pulp mills. However, the higher prices that wood chips can fetch internationally encourages them to export rather than selling locally for further beneficiation.

The local and district municipalities in both the EC and KZN have developed a number of project proposals in wood processing including in many areas wood waste/saw dust management. However, many of these proposals have not been implemented and in some cases bankable business plans need to be developed. **the dti** needs to play a larger role in supporting the municipalities get these projects off the ground. The Strategic Competitiveness Unit has begun a process of developing forestry/wood-processing clusters in both the EC and KZN. The development of these clusters should help support a number of projects or proposals by local government.

The land filling of solid waste from the downstream processing activities like saw milling, woodchips etc has a negative environmental impact. This environmental cost can however be changed into an opportunity through recycling. A number of projects have been undertaken internationally and to a far lesser extent, locally, to deal with recycling of wood waste. Wood waste could be used to develop local economies through processing into value-added products and services including production of fertilisers, charcoal, power generation,

biofuels etc. These opportunities need to be explored further and the necessary technologies acquired or developed to convert waste to higher value-added products. Given the potential for job creation and reducing the negative environmental impacts, a national strategy needs to be developed to manage wood waste and other waste including waste paper recycling.

4.0 Impact Analysis

The Genesis study has identified the EC as the region with the most potential for plantation forestry. It estimates that new afforestation of between 40,000 and 80,000 hectares, the conversion of the existing 10,000 hectares of wattle jungle to commercial plantations and the rehabilitation of DWAF category B plantations would create about 26,000 employment opportunities and contribute R278m to GDP at plantation level. At the processing level, it estimates that 1,700 jobs can be created with a contribution to GDP of R215m. Most of the employment opportunities are in poor rural areas where few job opportunities exist.

The potential 40,000 hectares that have been identified in KZN for small grower maps have a potential to create 15,000 employment opportunities at plantation level and 429 at processing stage with estimated contribution to GDP of R500m.

Funding requirements. A significant amount of the funding required in the implementation of this strategic framework will be in new afforestation and in rehabilitating the existing category B and C state plantations. In the case of new afforestations, these are largely expected to be undertaken by the private sector and government funding will only be required if the government were to share in some of the risks of long rotation plantations, which we propose to be considered. Countries with developed long rotation plantations have grown these on the support of government grants or subsidies thus reducing the risks and increasing the profitability of the enterprises. A detailed study needs to be

undertaken to determine the feasibility and sustainability of providing incentives to encourage long rotation plantations.

The state-owned finance institution like the Industrial Development Corporation (IDC) should also play a greater role in providing funding for the development of the industry. The IDC, already a significant investor in forestry assets, has included the forestry sector as part of its Strategic High Impact Projects (SHIP) initiative and allocated R100m for funding projects in the sector. This should stimulate further growth in the sector.

We envisage that the proposals as discussed in sections 3.3 and 3.4 could be supported within the existing government programmes. In particular, issues of technology transfer and upgrading could be dealt with in terms of the current incentives administered by **the dti** e.g. the Co-operatives Incentives Scheme could be used within its current parameters to support the equipment upgrade for small saw millers. With regard to skills development, a programme needs to be developed in conjunction with Forestry Industries Education and Training Authority (FIETA) and other stakeholders to link up with existing initiatives.

5.0 Conclusions

Plantation forestry and its downstream processing industries contribute significantly to job creation especially in rural areas where there are very few opportunities. These sectors still offer potential opportunities that can further be exploited. In order to maximise this potential, the existing constraints need to be dealt with.

The strategic framework has outlined the potential in new plantation forests and the rehabilitation of existing state owned forests in the Eastern Cape and KwaZulu Natal. It recommends the streamlining of the licensing process by appointing a cabinet-endorsed committee to identify bottlenecks in the process

and recommend ways of reducing the time and cost of licence applications especially for small and medium sized enterprises and potential community growers.

Small independent saw millers and furniture manufacturers are currently experiencing supply problems and job losses are inevitable if this is not addressed. In the short to medium term, a more pro-active role by the state owned forest company, SAFCOL is needed to make sure that these get an equitable share of logs. In the long-term, these should be addressed by an increase in plantation forests.

Opportunities have also been identified in downstream processing activities especially in waste (paper and wood) recycling saw milling, timber board and wood chips. Pulp mills are capital intensive and new mills will be developed in line with market demands.

It is accepted that many of the small enterprises lack the skills and technology to participate competitively and to produce quality products. In most cases, the small enterprises operate as informal businesses, are not organised in terms of associations and hence lack the ability to address common issues as an organised group. The issue of skills development and technological transfer to smaller enterprises thus poses more challenges than to organised business. A greater effort needs to be spent in supporting an organised structure for the small businesses and in supporting skills development.