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# Terms of Reference for the Development of the Forest Products Research Strategy for South Africa

February 2021

## **1. BACKGROUND**

### **1.1 PURPOSE OF THE PROJECT**

The purpose of the research project is to facilitate consensus and integrate co-ordination in research, development and transfer of technology to the forest products sector in order to enhance national economic growth, poverty alleviation and employment creation. South Africa has a long tradition of sustainable forestry and the industrial refining of the raw material which forestry can provide. In addition, South Africa's forests have a large national economic value, particularly with regard to employment opportunities especially in the rural areas where there is high poverty and high rate of unemployment.

The wood products research will address a wide range of wood utilization issues across the entire value chain. Currently the industry is at an era where there are increasing calls for ways to use wood from trees that have traditionally been underutilized—material that previously went to chips, was left

as slash, or was left untouched. In addition, there calls for industry to tap into new product development and technology that will result in growth and sustainability of the processing sector.

For South Africa to be able to be one of the leading forest industry nations, new products with an increased added value, new processes and new value chains based on the forest raw material are essential. The value chains for the traditional solid wood products must also be made more effective. The added value of the South African forest raw material in all the products, production and sales stages must be kept high. The manufacture within the country of solid wood products with a high added value is low. This indicates that there is a great potential for development and an increased production within the sawmilling industry, through a greater domestic refining, efficient production and logistical systems, specialisation, material and production development, etc.

Practically all the chips from the sawmills go to the pulp industry, and this meets about one quarter of the industry's total raw material requirement. The remodelling of the pulp industry can have great consequences for the possibility of the sawmills to sell their primary by-product, the sawmill chips. New products based on sawmill chip may therefore be an important area of development for the sawmill industry to secure its future income, where wood plastic composite products and self-bonding of fibre or chips are some examples.

Buildings and housing are the largest customer of structural sawn timber in the form of building materials, furniture and fittings. Globally, these products are now to an increasing extent being produced from non-renewable materials. Wood products should have a good potential for taking market shares from these sectors, but a precondition for achieving this is to increase the degree of refinement of the products (New products) supplied to the building sector. The value of the products going to this sector is currently very low. For the industry to be competitive in spite of the relatively high wage level in South Africa, productivity must be further increased.

An increased upgrading of the sawn timber within the country is desirable from a national economic viewpoint – increased employment opportunities, increased export income, etc. It should then in the first place be for products with a higher added value. This will benefit all the sub-sectors such as sawmilling, board-based manufacturing and packaging, furniture, interior fitting and construction. An increased cooperation amongst the sawmilling, building industry, furniture and joinery industries in Sweden can be an opportunity to increase the refinement of South African sawn timber.

## **1.2 PROJECT BACKGROUND**

International forestry industry has developed extensively in the past ten years and so is the overall economics of forestry. The South African forestry on hindsight has been left behind with regard to growth and development, specifically with regard to new products development. When comparing with other BRICS countries, South African forestry plantation area is 1.224 million hectares while Brazil is at 4.982 million hectares, Russia is at 17.340 million hectares, Indian is at 32.578 million hectares and China is at 46.670 million hectares.

The forestry sector has not done enough to focus the research targeted at timber processing and can define the priority areas on how the timber products can be improved to meet customer needs and also to be used in construction. A lot of work is also being done in the pulp and paper sector being a significant portion of the industrial bio-economy and this work also need to be integrated in numerous forest derived products.

Forestry in the country is not well acknowledged despite its growing contribution towards Agriculture GDP. South Africa's Forest Industry is a multi-billion Rand Industry, responsible for 9.8% of the country's agricultural Gross Domestic Product (GDP) and 4.9% of South Africa's manufacturing GDP. With an export value of over R38.4 billion, it is a key contributor to South Africa's economy (Forestry South Africa, 2019). It is critical that perception on forestry is changed and that potentials the country has are well determined.

Though the South African industry is recognised globally for its production of quality raw material, leadership in sustainable forest management and innovation in harvesting, the sector's limited use of wood products has triggered a need for a discussion to promote a wood culture society. A need to have a diverse forestry sector has been identified by both private sector and government.

## **1.3 PROBLEM STATEMENT**

Public perception towards wood use remain negative mainly stemming from the fear of deforestation and negative impacts on environments caused by exhaustive exploitation of wood for mass commodity production in the past. The art and joy concept of wood use propose turning the old consumption model around and promotes use of "good wood" for high end uses. The South African forest products industry has lost several hundred jobs in recent years and this loss is due to a

significant challenge with respect to maintaining competitiveness. Innovation therefore becomes key and critical for future competitiveness. The industry challenge in terms of lack of innovation calls for focus into three areas of innovation, namely: product, process and business systems. There is not an extensive body of innovation literature in South Africa specific to the forest products industry and researchers must continue to develop new knowledge in this area. Challenges and opportunities faced by industry are very frequently strongly linked to the public's interests such as jobs/job creation; energy security; sustainable use of forest-based materials. When considering the importance of global forest product markets to the economy, employment and forests, and the changes taking place in the markets, the scale of research on forest product markets is alarmingly low. South Africa has done well in forestry research and improving the quality of trees grown in the country however a lot still needs to be done on the downstream side in terms of processing and defining the research agenda in order to capture opportunities in new product development and increasing changes in customer needs.

The emerging forest-based bio-economy markets are showing signs of great diversification, and many new innovative products are entering the markets in the near future, or over the coming decades. It is therefore very important for the sector to tap into the untapped opportunities through Research, Development and Innovation (RDI). As a country there is therefore a need to develop a research strategy for the forestry sector which will clearly direct the country on specific growth opportunities.

#### **1.4 OBJECTIVES**

The overall objective of the programme is to develop a research strategy that addresses the research needs for the promotion of timber in construction as well as further beneficiation of the forest products to promote use of timber in the downstream industry. The strategy should provide positive publicity for wood as a sustainable and environmentally friendly material. The strategy will focus on advancing wood use and innovative forest products, manufacturing, wood construction technologies and building systems in SA. The Service Provider will be expected to focus on the following specific objectives:

- Consolidate the current research themes that are being carried out by public institutions in South Africa

- Understand the industry needs for successfully promoting the use of timber in construction as well as further beneficiation of forest products to address the customer needs.
- Maximise the appropriate use of wood in public and private projects.
- Strengthen South Africa’s capacity to produce competitive wood-based products and building systems that create and respond to market demand.
- Accelerate adoption of existing and emerging wood-based products and building systems.
- Develop a comprehensive strategy that clearly outlines the priority research themes for timber based products and further beneficiation of forest products.
- Actively maintain, create and diversify demand for SA wood products in key world markets.

## 1.5 METHODOLOGY

- 1.5.1. The Service Provider is expected to clearly stipulate the approach and provide a step-by-step explanation of the proposed process to reach the end result of this requirement.
- 1.5.2. It will be imperative for the Service Provider to outline in the methodology why a particular method was chosen, what pros, cons and risk factors are.
- 1.5.3. The use of appropriate research techniques or approaches based on the need to involve and achieve the highest participation rate possible of individual companies/ industry associations into the process.
- 1.5.4. The service provider will also identify stakeholders to engage in the process.
- 1.5.5. The service provider is required to identify and use appropriate quantitative and qualitative methods as appropriate.

## 2. CONTRACT OBJECTIVES

### 2.1 THE SCOPE OF WORK

#### 2.1.1 The following specific outputs are expected on completion of the project:

- Inception report
- Situation Analysis Report
- Stakeholder consultative meeting records
- Stakeholder feedback and workshop report - at least two workshops
- The Forest Products Research Strategy
- Implementation plan

- Monitoring & evaluation framework
- A workshop to present final results to the **DTIC** and key stakeholders
- Final report: recommendations, actions to undertake, and expected outcomes, impacts and sustainability

#### **2.1.1.1 Phase 1: Project Inception**

- Upon appointment, the service provider is required to draft an inception report that will detail the overall approach, methodology and expected timeframe and the cost at which each phase of the project activities will be completed.
- The project inception will serve as a discussion document and will be the basis upon which the detailed approach to the project is agreed.
- The inception is an interim deliverable that is expected to be completed in two weeks from the date of appointment of the service provider.

#### **2.1.1.2 Phase 2: Situation Analysis**

- Undertake literature review on existing projects, research projects, policies and plans. Synthesise information, screen for adequacy and identify gaps. The compatibility and complementarity of these projects with other projects or programmes within the country.
- A detailed background research which must address the following specific issues
  - Advancement in innovation through research and product development
  - Barriers to wood use for builders, developers, building inspectors and fire officials.
  - Opportunities to utilise and innovate with wood.
  - The promotion of the local wood species and the benefits of building with wood.
  - The competitiveness of value added wood sector.
  - Identify priority audiences.
  - Implications of increased regulatory changes to energy efficiency standards
  - The broad range of opportunities for increasing wood use (e.g. alternative solutions, hybrid building systems).
  - Innovative manufacturing opportunities for using SA wood fibre in mass timber products more effectively.

### **2.1.1.3 Phase 3: Compiling the Strategy**

This phase entails the following:

- additional workshops and consultations to ensure local participation;
- analysis of viable technical solutions;
- consultation meetings with decision makers/stakeholders to identify the preferred technical solutions;
- alternative solutions for the proposed project;

### **2.1.1.4 Phase 4: Implementation Plan, Action Plan, Monitoring and Project Profiling**

- On the basis of the proposed time schedule outlined in the Terms of Reference, the consultants will prepare an implementation work plan for the study and a briefing report summarising the analysis;
- Assignment of responsibilities to beneficiaries, Government, involved agencies and the private sector.
- Identification of key indicators and systems for monitoring project progress, results, activities, assumptions,
- Sustainability and impact and assignment of responsibilities to Government, involved agencies and the private sector.
- Review/evaluations Schedules of project reviews and post evaluation.
- Monitoring indicators: Identification of key indicators and systems for monitoring project progress, results, activities, assumptions, sustainability and impact.

### **2.1.1.5 Phase 5: Project Close Out**

The following are expected outputs in order to meet the objectives of this initiative:

- Project Inception Report
- Situation Analysis Report
- Policy/Strategy
- Implementation Action Plan
- Monitoring and evaluation framework

The reports have to be presented in appropriate electronic as well as printed format, and must be easily accessible and user-friendly. Minutes and other documents emanating from all meetings are general deliverables throughout the duration of the project.

### 3. TIME FRAMES

Proposals shall include a comprehensive project plan with clearly identified milestones and a firm delivery date for the completion of the total project. The duration of this project is expected to last **four months**.

### 4. REQUIREMENTS

The proposal must provide a detailed profile of skills and competencies of the **key experts**. A Company and or Consortium profile must be provided detailing previous work history and experience.

#### 4.1 Skills and Competencies

For the purpose of this work TIPS requires appointment of a service provider with the following competencies: For each expert proposed, curriculum vitae of no more than four pages, should be submitted. This section specifies the expertise (qualifications, experience) required for each person assigned to the study.

- Experience and knowledge of enterprise development specialist
- Working experience, knowledge and understanding of the forestry and forest products industry
- Strategy development and project experience
- A thorough understanding of regional, national and global economies and relevance in use of timber construction or forest products beneficiation and industrial policy development;
- A thorough understanding of Forestry industry backward and forward linkages;
- Experience in programme strategy or policy impact assessments;
- Research methodologies and analysis;
- Experience in policy development and Strategic Planning;
- Experience in project implementation, monitoring and reporting.
- Experience in the building environment
- Writing and Communication Skills
  - Good report writing and editing skills
  - A good command of the English language
- All experts who have a crucial role in implementing the contract are referred to as key experts

## 4.2 Team Composition

The appointment of the Service Provider will be based on the strength of key experts' curriculum vitae that will contribute to the successful execution of the project. The profiles of the key experts for this contract are as follows:

### 4.2.1. *Team Leader*

The incumbent must be a Business Development Specialist with the following key qualification and experience:

- Post graduate qualification in Economics/ Development Economics and related disciplines;
- Strong leadership qualities and the ability to communicate effectively;
- Minimum 7 years practical and technical experience in macroeconomic policy development;
- Knowledge of Forestry Beneficiation Industry, Local Economic Development, Industrial Sectors and clusters and Enterprise development issues;
- High attention to detail and ability to prioritise workload, multi-task and work to tight deadlines;
- Strong understanding of provincial macroeconomic policies;
- Knowledge of public sector procurement policies;

### 4.2.2 *Industrial Development/ Resources Beneficiation Specialist*

- Relevant Development Economics qualification;
- 3-5 years' experience in forestry based beneficiation, local economic development and macroeconomic policy analysis;
- Policy development, implementation, monitoring and reporting;
- Good analytical, writing and communication skills;
- Knowledge of South Africa macroeconomic policies;
- High attention to detail and ability to work to tight deadlines;
- Good analytical, writing and communication skills;
- Knowledge of forestry based industries and macroeconomic development policies;
- Knowledge of public sector procurement policies;

- Strong administration skills.

#### **4.2.3 Sector Specialists**

- Relevant tertiary qualification;
- 3-5 years' experience in industrial sector analysis specifically saw milling industry, Timber Beneficiation; Timber construction; Timber manufacturing industry and Built Environment
- Good analytical, writing and communication skills;
- Knowledge of forestry based resources sector/clusters policies;
- Knowledge of public sector procurement policies
- Strong administration skills

The service provider based on the methodology and approach suggested may recommend additional key experts. In this regard, the service provider should justify and motivate the inclusion of any additional experts. The proposal should provide a detailed description of the CV to be submitted in the attached format (Annexure A).

### **4.3 REPORTING**

TIPS, the DTIC, The Department of Science and Innovation, and the Department of Environment, Forestry and Fisheries will jointly form a Steering Committee to oversee the project with a specified Project Manager and Project team as the contact for the service provider to report on progress of the project within the stipulated timeframes. The reports will be required to be documented in a specific format as provided by the project manager.

The service provider must provide the **Project Manager and Project team** with a project plan indicating time frames, processes of implementation and provide reports, evaluation and statistical data.

The **Steering Committee** will evaluate each phase before any payment is approved. The final report should be presented to the Steering Committee. All meetings are to be arranged by the Service Provider who is expected to keep the record of such meetings and to deliver the record of a meeting within 10 working days of it having taken place.

On conclusion of the project, a meeting will be held between the service provider and the key stakeholders who will be identified by the Steering Committee.

#### **4.4 Proposal REQUIREMENTS**

The proposal will comprise the following elements:

- Understanding of the Programme Context and the Assignment
- Organisation and methodology
- Proposed Team Composition and Key Experts Profile
- Financial proposal with a budget breakdown and a cash flow forecast
- Attachment of the BEE certificate

The **budget breakdown** will include:

- The estimated number of days per expert and other personnel and fee rate per expert/personnel and output.
- The incidental and disbursement costs (including travel, stationery etc.) (including outsourced or in sourced costs not covered by key expert fee days) per output.
- Any additional costs.

#### **4.5 BID EVALUATION CRITERIA**

The Service Providers will be evaluated on the following four criteria:

- Team
- Technical proposal
- B-BBEE status
- Price

#### **4.6 PROPOSALS**

**Closing Date: 12 MARCH 2021 at 16:00**

Proposals to be sent to Trade and Industrial Policy Research Strategies (TIPS) for attention of **Ms. Daphney Mabuza ([daphney@tips.org.za](mailto:daphney@tips.org.za))**

