Assessment of the Gauteng Firewood Market and the Origin of Protected Tree Firewood Products Sold

FINAL REPORT

Submitted to:

Department of Water Affairs and Forestry

by

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21 September 2007

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ASSESSMENT OF THE FIREWOOD MARKET OF GAUTENG AND THE ORIGIN OF PROTECTED TREE FIREWOOD PRODUCTS SOLD

1. Executive Summary

The Department of Water Affairs and Forestry (DWAF) is increasingly concerned about the rapidly growing firewood (braaiwood) industry in Gauteng and its impact on the woodland (savannah) ecosystems. It is estimated that more than 70 000 kg of braaiwood is being sold in Gauteng per day, which more than doubles during the winter season. Some role-players believe it is more than double this approximation.

DWAF therefore commissioned this study to gain insight into the nature and size of the firewood market in Gauteng, and the awareness, profile and perceptions of retailers and consumers. This is to aid DWAF to:

- Target those areas where most of the protected species firewood products are harvested for licensing control.
- Monitor harvesting impact on ecosystems.
- Achieve better control at retail levels.
- Establish awareness raising strategies.
- Determine the viability of promoting alternative firewood sources.

The methodology used for the study consists of three phases: Phase 1 – Preparation and logistical arrangements. Phase 2 – the actual research which was preceded by the pilot study and Phase 3 – findings and recommendations report.

Target groups were subdivided into three: Retailers, Suppliers and Consumers.

In turn firewood retailers were categorised in Food / General Dealers e.g. Pick & Pay, Filling Stations, e.g. Engen and Liquor Outlets e.g. Liquor City. Suppliers would be identified through interactions with Retailers and Consumers were randomly selected in five designated areas each within the Johannesburg and Tshwane / Pretoria Metropoles.

Both retailers and suppliers were disinclined to participate. They argued that the information needed is of such a sensitive nature to the extent that it can negatively impact on their business operations. Individual retail branch operators in the targeted consumer survey areas provided some data but it wasn’t much useful, as it could not indicate overall quantities. Identified suppliers were also mostly unwilling to participate. However, a list of suppliers / producers has been compiled.

A major requirement of the study was to determine where firewood is sourced. As the national retailers declined to not only provide sales records, they also refused to provide information about their suppliers. In the case of individual branches within the target areas (food outlets, filling stations, etc.) owners / management appear to have limited information and generally confused suppliers with agents who in turn refused to provide details or were otherwise unaware as to where firewood was harvested in the first place. At most, efforts to establish this yielded existence of a chain of agents between the primary source and final consumers.

The consumer survey undertaken indicates that although there is a high demand for firewood, both retailers and consumers are not much aware of the National Forest Act of 1998 (NFA), sustainable harvesting practices and protected tree species.

The consumer responses were extrapolated to the overall population of the target group and revealed that the use of braai wood in Johannesburg is as high as 20 428 tonnes per month and Pretoria / Tshwane is 11 414 tonnes per month i.e. **total of 31 842 tonnes per month translating in over a 1 million kilograms of wood used per day** in the Johannesburg Pretoria / Tshwane area alone.

The data for consumers show that apart from preferring charcoal for braai purposes actual species preference is not clear. More detailed information is required in order to know the particular species used for braai wood. See recommendations in this regard below.

In general retailers surveyed in the target areas have little if any knowledge concerning license requirements in dealing with protected tree products. Retailers are mostly unaware of the actual species being sold and it can therefore be reasonably concluded that there is little compliance to the NFA of 1998 regarding protected tree species.

It was also discovered that there is not much of a variation of volumes used between summer and winter. However, there is a definite increase of wood use in winter for heating purposes but a similar increase in charcoal use during summer for braai purposes levels out the consumption. Peak times are experienced during the December holiday season where in some reported cases double the normal volumes of firewood / charcoal are consumed.

In the few cases where discussions with retailers and harvesters took place it became evident that they would be willing to participate in a self-regulation scheme provided that their businesses are not compromised in any way.

Recommendations include:

1. A specific project should be undertaken focused on persuading these key stakeholders to participate in a manner that is non-threatening to their existing operations and / or market positions.

2. The project should be target group specific, i.e. a separate approach should be followed for retailers and suppliers / harvesters / producers.

3. This should be introduced through precursory awareness campaigns and workshops to explain the impact of the over-utilisation of protected tree species. The aim of the campaign should be to create a similar awareness to for example organic produce or dolphin friendly tuna products, ultimately to have each tree product on sale certified as NFA compliant.

4. For this purpose an independent certification process needs to be established to prevent misrepresentation by role players, similarly to that of organic product certification.

5. An information system to be designed allowing for regular data to be anonymously supplied to monitor the volume, category and source of tree products (species) consumed relative to a specific area.

6. A separate campaign to be launched to create awareness among firewood consumers.

2. Introduction / Background

DWAF's website on sustainable forestry – protected trees, states that the NFA provides for the identification and declaration of protected status of certain tree species (types of trees). To review the list of protected tree species, DWAF has during 2004 undertook an objective, scientific and participative process to determine the latest list of protected trees. This list is republished every year, the latest being in the Government Gazette No. 29062, Notice 897, 8 September 2006**.** See Annexure A – List of Protected Tree Species. All trees occurring in natural forests are protected by the Act. Protective actions take place within the framework of the Act as well as through national policy and guidelines reviewed from time-to-time. Trees are protected for a variety of reasons, and some species require strict protection while others require control over harvesting and utilization.

Moreover, the NFA of 1998 stipulates that forest trees or protected tree species may not be cut, disturbed, damaged, destroyed and their products may not be possessed, collected, removed, transported, exported, donated, purchased or sold – except under license granted by DWAF (or a delegated authority or a regulated exemption). Applications for such activities must be made to the responsible official in each province. Each application is evaluated on merit (including site visits) before a decision is taken whether or not to issue a license (with or without conditions). Such decisions must be in line with national policy and guidelines[1].

The aim of the protected tree list is not merely to protect rare species but also keystone species, (which plays a crucial role in sustaining ecosystems), trees of high use value and trees of exceptional cultural or spiritual value.

It is against this background that DWAF is increasingly concerned about the rapidly growing firewood (braaiwood) industry in Gauteng and its impact on the woodland (savannah) ecosystems. This industry is uncontrolled with the onus of licensing and reporting resting on suppliers / harvesters with the minimum of oversight. Informal surveys indicate that consumers often prefer to use certain protected species for braai fires including Camel Thorn (*Acacia erioloba*), Leadwood / Hardekool (*Combretum Imberbe*), etc.

According to DWAF scant studies have to date been carried out to understand the magnitude of commercial harvesting and marketing of braai and firewood. However, an estimate from available data indicates that more than 70 000 kg of braaiwood is being sold in Gauteng per day, which more than doubles during the winter season.

[1] http:/www.dwaf.gov.za/

In addition the original briefing for this study also mentions the following concerns:

- A perception that much of this braaiwood used is protected hardwood originating from the woodlands.
- A survey involving 100 farms on the use of Camel Thorn in the Molopo area in North West showed uncontrolled harvesting of more than 3 000 tonnes per annum.[2]
- A study in the Cape Metropolitan area in 2003 found that Camel thorn braaiwood is the most sought after braaiwood for the quality of its coals. A large proportion of this protected species is sourced in Namibia.[3]
- Most harvesters / suppliers and retailers are not yet aware of the protected species status and licensing requirements.
- Woodland ecosystems are under pressure from land use change, development, farming activities, global warming, bush encroachment, invasion of alien plants and a number of other factors.
- Overexploitation contributes to the deterioration of ecosystems. Harvesting practices need to be controlled to ensure sustainability of wood resources.
- Many farmers / landowners supplement their income by engaging in commercial braaiwood activities.

The large volumes of firewood sold in Gauteng, which includes protected species such as Leadwood, is cause for concern. DWAF has already started with a campaign of creating awareness, including the publication of posters and pamphlets. As DWAF is not only concerned with the safeguarding of the protected tree species, it is also focused on the management of tree-dominated habitats as a whole and thus also promoting the protection of forests and woodlands (the main tree dominated biomes) especially through its Participatory Forestry Management (PFM) strategy.

The process of formulating guidelines and policies for the management of protected trees and woodlands is therefore to be informed by the results of this study. Concrete data is needed to understand the volumes of protected tree products involved in the fire / braaiwood industry and to answer how much resource should be allocated for control purposes.

Selabe & Mokgopo Consultants (SMC) have been commissioned by DWAF to conduct an assessment of the Gauteng firewood market and the origin of protected tree firewood products sold. The report is on both qualitative and quantitative aspects of the study.

[2] A Collation and Overview of Research Information on Acacia Erioloba (Camel Thorn) and Identification of Relevant Research Gaps to Inform the Protection of the Species – Seymour, Milton and others, DWAF 2003.
[3] Ibid

3. Purpose / Objectives

The purpose of this study is to gain insight into the nature and size of the firewood market in Gauteng, and the awareness, profile and perceptions of retailers and consumers. This is to aid DWAF to:

- Target those areas where most of the protected species firewood products are harvested for licensing control.
- Monitor harvesting impact on ecosystems.
- Achieve better control at retail levels.
- Awareness raising strategies.
- Viability of promoting alternative firewood sources.

Therefore the objectives of the study are to:

- Provide DWAF with more concrete data on the size of the firewood / charcoal market and the species used.
- Provide lists and contact details of retailers and their suppliers.
- Assess the level of awareness and compliance of retailers to the license requirements of the NFA of 1998 regarding protected tree products.
- Determine the areas of origin of firewood products (especially of protected trees).
- Determine the awareness levels of consumers, their purpose for firewood use, preferences for firewood types and the reasons for this, and their willingness to change to other products.
- Provide DWAF with a description and analysis of the results of the surveys.
- Obtain expert opinion on appropriate action to be taken.
- Gain an understanding of the volumes used per season (peak times). This will assist DWAF to determine when to focus enforcement actions.
- Gain an understanding of the volumes associated per species. This will serve as an early warning system for the protection of trees.
- Investigate the willingness of retailers and harvesters to participate in a self-regulation scheme.

4. Study Methodology

The briefing for this study stipulated the following activities to be undertaken:

- A survey of all retail outlets of firewood, (including charcoal) products sold, (including species involved), the level of awareness about licensing requirements, and the number of retail outlets selling protected tree products without a licence.
- Take wood samples at selected retail outlets for wood identification testing if the presence of protected species products are suspected and cannot be identified on sight. (DWAF will assist to have a batch of samples identified macroscopically).
- In the survey of retail outlets also determine the origin of the wood products (especially protected tree products) according to magisterial district or district municipality (and farms where obtainable). Also indicate products imported from neighbouring countries. For major firewood retailers also determine the contacts within the market chain from the harvester to the retail outlets.
- Representative sample of consumers at selected retail outlets to determine fire wood uses and preferences, awareness of protected tree species and the need to control the products they consume, and willingness to use alternative products.
- Propose actions needed to be taken by DWAF to improve control over the firewood market as far as protected tree products are concerned.
- Generate a report on findings and recommendations, including lists and contact details of retailers and other players in the market chain from harvester / landowner to end retailer.

The methodology conceptualised to undertake this study consists of three phases:

Phase 1 Preparation and logistical arrangements. Source / design and develop survey tools.

- Gather information regarding target groups (retailers, suppliers and consumers). In order to gather information on these pre-determined target groups the following activities have been undertaken.
  - Pilot survey with DWAF officials on the 31st of July and 1st of August 2006.
  - Scan the retail environment to identify what outlets are trading in firewood.
  - Random discussions with consumers on their firewood needs and preferences.

- Generate information leaflet / handout to explain what the study is about. Requested the Directorate: Forestry Technical and

Information Services to write an introductory letter on DWAF letterhead.
- Source and/or develop necessary survey tools.
- Generate detailed workplan to roll out empirical study.
- Attend project inception meeting with DWAF officials to clarify any uncertainties relating to the project, solicit inputs regarding implementation and agree on final workplan.
- Source necessary resources, including contracting of fieldworkers for data collection purposes.
- Set up meetings and organise consumer surveys. Start with major retailers – Pick & Pay / Score, Checkers / OK, Woolworths, SPAR, Metro Cash & Carry, Game, Makro, Engen, Total, Caltex, Sasol, etc.

Phase 2 Meet retailers, subsequently their suppliers and finally consumers. Gather necessary qualitative and quantitative data, analyse and interpret data. Attend midway progress meeting.
- One-on-one meetings with retailers based on structured interview procedure.
- Follow up meetings with their suppliers / harvesters.
- Carry out consumer survey.
- Record, analyse and interpret data.

Phase 3 Generate findings and recommendations report.
- Publish report
- Present findings to DWAF

Picture 1: Typical firewood products at retailer - Pilot survey with DWAF Officials 31 July 2006.

6. Findings

Findings are reported in terms of activities undertaken relative to the agreed three phases as predetermined in the methodological approach.

6.1 Preparation and logistical arrangements.

The inaugural phase concentrated on gathering appropriate information on the subject matter, identify the major role players, source (or in the case where not available design and develop) survey tools and develop a project management blueprint to roll out the activities required for the successful completion of the research.

Specific documents, findings and results include:

6.1.1 Target Group Information

RETAILERS

The South African retail setting is unique. Chain stores or outlets with mega head offices or centralised franchise ownership dominate retail activities. This has directed the research team to focus on these central structures due to their seemingly overall information base. They achieve their competitive advantage through bulk procurement and subsequently supply their outlet networks with a range of products dependent on turnover. Retail networks, which sell most of the firewood in the target area, include food / general dealers, liquor and fuel outlet groupings with the most important role players are reflected in the table below:

Table 1: Most important sellers of firewood in the study area

Category	Group	Contact Person	Address, Tel No & e-mail address
Food / general dealers	Pick and Pay	Rowan Armstrong	011 856 7931 2 Allum rd Kensington rarmstrong@pnp.co.za
	Score	Dave Ramsdey	011 856 7931
	Shoprite Checkers / OK	Gerhard Ackermann	Tel: 021 980 4070 Fax: 021 980 4075 gackermann@shoprite.co.za
	SPAR	Peter Hughes (MD)	031 719 1900 011 305 7355 Web Site: www.spar.co.za

	Fruit and Veg City	Mike Coppin	Tel: 021 532 5400 Fax: 021 532 5411 E-mail: info@fvc.co.za Web Site: www.fruitandvegcity.co.za
	Metro Cash and Carry	Carlos Dos Santos	011 809 5500 33 Scott St, Waverley
	Woolworths		0860 100 987
	Massmart stores Makro / Game / Dion / Builders Warehouse (charcoal only)		011 517 000 e-mail info@massmart.co.za 0860 300 999 makrocare@makro.co.za
Fuel	Total		0860 111 111
	Engen	Tengi ref 398805	0800036436 Tel: +27 (21) 403 4911 Fax+27 (21) 403 4067
	BP	Rams Ramashia (MD)	Tel +27 21 408-2911 Fax +27 21 408-2218
	Sasol	Jabulani Mabaso	011 889 9760
Liquor	Liquor City	Robbie Schoeman Head Office	012 810 0090 tel: 011 917 3220 fax: 011 917 9321 e-mail: liquorci@mweb.co.za
	Solly Kramers		tel: 012 803 4292 fax: 012 803 6953

SUPPLIERS

Most suppliers of wood products were reluctant to provide information about their operations – they contend that their networks, origins of their products and volumes sold give them their competitive edge and this information in the wrong hands could threaten the continuation of their businesses.

Identified suppliers with contact details are summarised in the table below:

Table 2: Suppliers with contact details:

Names		Contact Person & Numbers	Comments
1	WoodStock: Supplier of Braaiwood and Firewood	Michiel Lotter – 082 788 0226 Fax: 012 802 1391	Collects wood from Masisi, Venda, Limpopo (hardwood and Mopani) – A representative in Venda (employing 20 people from the neighbouring community), collects dead wood felled by elephants and sells them to Lotter. It is collected on state land – a 10 km wide buffer zone between Zimbabwe and SA. The representative has a permit from the Induna to collect the wood. The community is in partnership with the state. There are also other concessionaires (with permission from the Induna) who also harvest in the area. Wood is collected in the following areas: - Alldays (Knobthorn, hardebos), Tolwe (North West, near Ellisras, Mastroom villages (Knobthorn), Pienaar's Revier (Sekelbos) – In addition Lotter also obtains wood from other sources such as a provider based in Brits who collects firewood and sells it inter alia to Lotter Areas of collection include Bronkhortspruit, Mpumalanga (black wattle) Dwaalboom, Thabazimbi (Rooikool) Lighuiwel (Bluegum) Gravellotte (charcoal). Enquiry with the DWAF official responsible for processing licences in Limpopo revealed that Michiel Lotter was indeed given a licence to collect and transport deadwood from woodland area in Tshipise, Venda, back in 2005/6. However, following his failure to turn up for two successive meetings which are part of DWAF's monitoring and inspection exercises regarding the way he collects the wood in Tshipise, a decision was taken not to renew his license. DWAF could not confirm that he is not collecting the deadwood by himself but rather buys from the community members who collect and sell them to him. It was also established that DWAF has also decided not to issue further

			license to collect deadwood in these areas (Tshipise and Masisi) after complains by the chief and community members about the unsustainable manner in which deadwood is collected in bulk from their land for commercial purposes.
2	Louis Mostert and Mike Cronje	- 082 763 5158	Buys firewood mainly from Michiel Lotter. Limited knowledge about the source of the wood. Only aware that he collects his firewood from Venda in Limpopo but have no idea about the permits and how the wood is collected.
3	Raslow Padstal	Van Dyke - 082 820 2691	Harvests on his farm “Holland” in Thabazimbi. Does not harvest on any indigenous state or community forest.
4	Hi-Lite Charcoal (Namibian products), Pretoria North	Amanda – Office in Garsfontein, Tel 012 998 4333	Their charcoal products are made from Mopani wood harvested from a few farms in and around Pretoria.
5	Hi-Lite Charcoal (Namibian products), Pretoria North	George Day – Office in Garsfontein, Tel 082 563 4333	Sell both local and Namibian products. Only sells wood and does not cut, produce burn or package anything. “We are just agents”. His suppliers are based in Namibia who send an interlink truck once or twice a month to deliver orders. He is not prepared to provide details for competitive reasons. According to him there are plenty of farms in Namibia where intruder bush is harvested for charcoal production and anyone who cut, burn and sell wood to him, does so legally and with the full knowledge of the Namibian government.
6	Hi-Lite Charcoal (Namibian products)	017 804 1652	Agent known to the management only
7	Hi-Lite Charcoal (Namibian products)	Jan – 082 490 0589	
8	E & C Charcoal Pty (Ltd), Pietermaritzburg	033 342 1317 / 1338 / 1339	E & C Charcoal Pty (Ltd) is a private company based in KZN and with administrative offices in Pietermaritzburg. Its production sites / factories are at Dalton in Midlands, Ahrens and New Castle. The packaging and storage site in Dalton covers 24ooo square meters and employs approximately 550 people. It uses wattle trees to manufacture its charcoal

			products. It is one of the biggest producer of Charcoal in SA with an annual production of 20 000 tons of lump and up to 12 000 tons of briquettes. Large portion of its products are exported to almost every European country where it has established an excellent international reputation for quality, service and reliability. It is FSC and SABS accredited and also is endorsed by WWF South Africa with who they have royalty agreement. Hence its products such as Braaikettes are Proudly SA branded and a percentage of each purchase is donated to WWF (Worldwide Fund) South Africa for its commitments in conservation work. In 1998 and 1991 the company received the State Presidents Award for Export Achievement.
9	Charka – manufactured & packaged by Braaimaster, Piet Retief		SABS Approved products
10	Braaimaster CC, Lanseria	Tel: 013 753 3704	This contact number was established through telkom search, and is an Mpumalanga number instead of Lanseria or Pretoria and it actually does not exists anymore.
11	Shonnah Briquettes, Namibian hardwood products	082 677 0794	
12	Redwood Suppliers	Michael from Brits	An operator who is not traceable.
13	Savannah Brew cc (charcoal products from Namibia)	Louis Venter – 082 677 0794	All the products he sells are cut, burned, manufactured and packaged in Namibia. According to him there is not enough production of firewood in SA. Agents of firewood in SA are currently struggling to get supply from Namibia because the manufacturers are now exporting their products to the European countries where they are paid in dollars, euros and pounds. They prefer overseas markets due to better exchange rates and because of heavy SA export duties. He

			was reluctant to provide suppliers' contact numbers but given the nature of this study relented. His Namibian supplier is Mr Willien Enstin who is the Chairman of Coal Industry and also a Director of Forestry in Namibia tell: 081 230 5078.
14	Bakgart Braai cc	Jacko – 083 779 1040	
15	Eez Lite Solution (Pty) Ltd	P.O.Box 11306, Silver Lakes, 0054, Tel: 012 993 2722/3 Fax: 012 993 2715 Email: quickets@jcgroup.co.za Website: www.jcgroup.co.za	
16	UPTONS t/a Joeli Marketing	Francois – 082 570 4791 & 012 664 5990	Buys hardwood from harvesters in Rustenburg who collect deadwood in and around Thabazimbi
17	UPTONS	Godi Giyane - 082 570 4791	
18	Ms Van Niekerk	073 379 0773 / 011 979 1181	
19	Uluvumbu Timbers (Rodgers)	082 654 4992	
20	Nungu Trading 189 (Pty) Ltd (Tony Els)	011 964 1074 / 082 324 1222	
21	Jossies BBQ Suppliers cc	Box 18586, Sunward Park, 1470 Tel: 011 894 2146	
22	Sales go	Louis – 082 803 5353	
23	Benjamin Mphela	073 196 8188	
24	Paulos	076 766 5351	
25	Louis Venter	082 677 0794	Also buys from Michiel Lotter
26	Charcoal Hardwood, Suidwest charcoal, Namibia hardwood, packed by Bosboubeligings, Barbeque Products made from intruder	No contact details available	

	bush		
27	Gravellotte Charcoal, Hardwood from Lowveld. Gravellotte Briquette, SA hardwood manufactured from hardwood.	P.O.Box 94 Gravellotte 0895 Tell: 015 318 4256 Cell: 082 785 2848	The company is based in the Gravellotte, just outside Hoedspruit in the Limpopo province. It has agreements with farmers and business people involved in conservation and wildlife management in the area. The agreement allows the company to conduct some conservation, environmental and grazing and wildlife management for the farmers in return for and thereby chopping down Mopani tress which they use in charcoal production. Firewood is chopped down from various farms, transported to the production site located in one of the farms where they are burned to ashes in various stages. From here they are transported to the manufacturing site where the ash is converted into charcoal, packaged and transported to wholesalers, clients and agents in various areas of the country and manly in the Gauteng areas. The words “Thank you for your support to create jobs in the Mpumalanga Province” appears on the bags of its products. It also packages on consignment its products in various brands other than the Gravellotte Charcoal brand the greatest beneficial of which is the Hi-Lite Charcoal.
28	Gravellotte Briquettes cc	Ravenswood, 105 13th Ave, Boksburg North	
29	Kruger Johan	073 206 7588	Agent for the Gravellotte Suppliers
30	Piet Pretorius	011 965 0315	Supplies hardwood
31	Briquette, Namib Hardwood	Patat du Toit – 082 442 0332	
32	Kalahari Verspreider	082 677 0794	
33	RICO Houtskool	083 460 8779	
34	RICO (Super Braai)	Chris – 083 505 6471	
35	Charcoal made from hardwood	Pieter – 083 306 0613	Denies he is involved in the firewood industry and that he is supplying outlets in Gauteng with firewood. This is despite his name having been mentioned by a number of outlets as their supplier.

36	Etosha Charcoal, Namib Hardwood by Braai & BBQ International (Pty) Ltd	Tel: 0860 102018 Fax: 011 684 5119	Braai & BBQ produces charcoal briquette, triquettes and fire-lighter products from its factory in Pretoria. Standard packaging includes 4kg and 5kg bags of charcoal, and 4kg bags of briquette and triquettes. The Braai & BBQ supplies a number of retail and chain stores locally and internationally including Pick n Pay in SA. The Braai & BBQ are made largely from Namibian intruder bush.
37	South West Charcoal Briquettes, hard and softwood	Factory fax – 012 386 5468	
38	Hyne	No contact details available	
39	Easylite Solutions	No contact details available	
40	Big Five – Namibian hardwood products	Andries – 082 906 0451 Piere – 083 573 8669	Buy all their products from Namibia. Every charcoal product comes into the country as a finished product including packaging. Now wants to bring in hardwood especially Sekelbos but does not have permit. Would like DWAF to assist him with a permit to this effect.
41	Stream Ice, Fordsburg	Zeeber – 082 285 9413	
42	SLAM Paper	No contact details available	
43	Namib Distributors cc t/a Palm Tree Distributors	Tel: 011 900 4320 Fax: 011 868 4146 Email: harcoal@tropicana.export.co.za	Endorsed by the South African Wildlife Trust and the Game Rangers Association of Africa (GRAA)
44	Star Pack Distributors, Pretoria and Midrand	Tel: 012 653 6335	
45	United Charcoal Producers	011 964 1567	
46	A C Charcoal	No contact details available	
47	Desert Heat, Namibian Export Quality	No contact details available	Environmental friendly products made out of invaded bush and hardwood

48	G Floyd Licensed manufacturers	P.O.Box 142 Lydenburg Tel: 013 23368	“The Best”, “Geen Beter”
49	Louis (Seshego)	083 803 5353	
50	Piet Pretorius (Hardwood)	011 965 0315	
51	Agents for Hi-Lite Charcoal	082 335 5508	Based in Mpumalanga but supplying some of the vendors in Gauteng
52	Braai Time	Clubview, Tel: 012 660 2277/ 2	
53	Caroussell Charcoal & Braaiwood	Die Wilgers, Tel: 012 346 1670)	
54	Savannah Braai, CK 2001/029160/23, Rooihoutes, Products of Namibia	Cell: 082 677 0794	
55	Alexis Brikette / Charcoal, SA Export Quality, Product of South Africa	082 957 3773	
56	Super Braai, Sifted Namibian Hardwood, Charcoal and Brikettes.	Patat Du Toit, RSA Cell: 082 447 0332, Namibia: Tel: 0926/67 235 0160 Fax: 0926/67 313 1777	It is packed by Patat Du Toit found in Kaapstad, Bloemfontein, Welkom, Pretoria and George. Has Agents countrywide / landswyd
57	Blue Braai	Tell: 011 979 1181	Namibian hardwood
58	Best Braai	Contact: Michael Amousun, P. O. Box 11315, Aston Manor 1630, Tel: 072 151 9910	Charcoal and briquettes made from Namibian hardwood

Picture 2: Gravellotte charcoal production

Picture 3: Gravellotte charcoal production

Case Study 1: WoodStock cc

WoodStock: Supplier of Braaiwood and Firewood
Contact Person: Michiel Lotter
Cell: 082 788 0226, Fax: 012 802 1391

Main Depot / operational office: Lynwood Road, Lynwood, Pretoria

Other Depots / Sales Centres:

- Elando Park (Garsfontein)
- Total Garage (Hans Strydom road)
- Total Garage (Centurion)
- Excel Garage (Zambezi Drive)
- Amazon Nurseries

Places of wood collection:

- Masisi, Venda, Limpopo (Hardwood and Mopani) – An operator in Venda with 20 assistants from the community, collects dead wood mostly felled by elephants and sells them to WoodStock. The wood is collected from state land – a 10 km wide strip between Zimbabwe and SA. The local Induna has issued a permit for them to collect the wood. The community is in partnership with the state in collecting wood on this land. There are also other operators with permission from the Induna to collect wood.
- Alldays (Knobthorn, Hardebos).
- Tolwe - North West, near Ellisras.
- Mastroom villages (Knobthorn).
- Pienaar’s Revier (Sekelbos) – An operator in Brits collects the firewood and sells it to WoodStock.
- Bronkhortspruit, Mpumalanga (black wattle)
- Dwaalboom, Thabazimbi (Rooikool)
- Ligheuwel (Bluegum)
- Gravellotte (charcoal)

Types of wood sold:

- Knob Thorn
- Sekelbos
- Black Wattle
- Rooikool
- Bluegum
- Hardebos
- Hardekool/Leadwood

Clients

- Retailers (Shoprite checkers, filling stations, nurseries, vegetable markets, small businesses and vendors)
- Also sells direct to consumers

Notes:

Volumes during winter, which is effectively a period of six weeks, are much higher due to the need for additional firewood for heating.

For instance, the volumes of sales for a winter period ending July 2006 read as follows, which is higher that in summer:

- Sekkelbos – 1 184 bags
- Leadwood/hardekool – 220 bags
- Black wattle – 1 100 bags
- There is also the Fruit and Vege that purchases about 500 bags per week which order is constituted by Sekkelbos, bushveld mix and knob thorn

The Volumes for summer, for instance, reads as follows:

- Black wattle – 260 bags
- Sekkelbos - 420 bags

The main reason for this purchase in summer is braai while in winter is heating and a bit of braai.

Case Study 2: Gravellotte Charcoal

Production and distribution of Charcoal, Briquettes and Braaiwood
Contact Person: Paul Prinsloo
PO Box 94, Gravellotte, 0895
Cell: 082 824 1734

Operational office: 56 Tambotie St, Gravellotte

Overview of the business:
Gravellotte Charcoal has agreements with 4 cattle and game farmers to deforest their farms in order to increase available grazing. The agreement between the farmers and Gravellotte Charcoal is simply an exchange of wood for the service of deforestation, normally costing R18 000 to R23 000 per hectare. Harvesting takes place over an area of ± 120 000 hectares. Concentrate on Rooibos, Mopani and to a lesser extent Knobthorn. All protected (scarce) species are left undisturbed, i.e. Marula, Leadwood, Wild teak, Apple-leaf, etc.

Products:

	Size	Price			Volumes Units per month
		Agent	Whole sale	Retail	
Charcoal	4 kg	R7,00	R9,00	R16,50 - 23,00	65 000
Briquettes	4 kg	R9,00	R11,50	R18,50 – 25,00	
Braai wood	8 kg		R7,50	R15,00	4 000

Kilograms wood processed per month:
- Charcoal / Briquettes 65 000 units x 4 kg x 3 kg (1 kg charcoal = 3 kg wood) Total kg = 780 000 kg
- Fire / braai wood 4 000 units x 8kgs Total kg = 32 000 kg

Also packs charcoal / briquettes for:
Hi-Lite
Safari
Braai Mekka
Charka
Progress Milling
Supply braai wood to KNP

Number of employees
135 Unskilled workers

NFA
Does not have a licence, as they are not dealing in protected tree species. Is vaguely aware of the act.

Competition:
Only competition is from Namibia but believe that due to unsustainable harvesting practices it won't continue.

Is concerned about wood poachers who are decimating forests to supply buyers in the major cities. Would welcome a practical (self) regulatory scheme, as it would rid the industry of opportunists and poachers.

Notes:
Significant fluctuation of consumer patterns between winter and summer. During winter firewood use increase noticeably for heating and in summer charcoal consumption increases, as it is preferred for braai purposes.

CONSUMERS
It was agreed with DWAF project management that the consumer survey would target the following areas:

Tshwane to be divided into 5 main focal areas: north, south, east and west with two suburbs to be surveyed in each focal area.

- Central: Sunnyside and Lynwood
- North: Pretoria North and Montana Park
- South: Centurion and Littleton Manor)
- East: Garsfontein and Silverton
- West: Atteridgeville and Danville

Gauteng (Johannesburg Metropole) also to be divided into 5 main focal areas: north, south, east and west with at least one suburb to be surveyed in each focal area.

- Central: Hillbrow and Yeoville
- North: Rosebank
- South: Diepkloof (Soweto)
- East: Observatory[4]
- West: Westdene

6.1.2 Information Leaflet

Please see the DWAF introductory letter attached as Annexure B – Introductory Letter.

6.1.3 Survey Tools

A structured questionnaire was designed for the retailer and suppliers survey. Attached as Annexure C – Retail / Suppliers Questionnaire.

The consumer survey questionnaire was developed using StartPack questionnaire design software. Please see annexure D – Consumer Survey / Questionnaire.

6.1.4 Workplan

A detailed workplan was designed to roll out the empirical study. The workplan identified key areas in the three phases, detailing specific activities, responsibilities and deadlines.

6.1.5 Project Inception Meeting

A project inception meeting was held with DWAF officials to clarify any uncertainties relating to the project, solicit inputs regarding implementation and agree on final workplan.

6.1.6 Data Collection

Necessary resources were sourced, including a social researcher for designing survey methodology and statistical analysis of results and fieldworkers to conduct surveys.

6.1.7 Retailer Meetings

One-on-one meetings with retailers were scheduled to conduct structured interviews.

[4] Due to boom gates that have recently been erected around Observatory which impeded our access, the area was left out of the survey and substituted by Yeoville which was initially incorporated into Hillbrow as part of Johannesburg central.

6.2 Empirical Study

The study consisted of scheduling meetings with retailers, subsequently their suppliers and finally a comprehensive consumer survey. This would allow for the gathering of necessary qualitative and quantitative data for analysis and interpretation purposes towards developing recommendations.

6.2.1 Structured Interviews with Retailers

It was felt that if the retailer groups mentioned under paragraph 5.1.1 can provide information on total volumes of firewood and charcoal sold across their branch structures, then a fairly accurate overall figure for the whole of Gauteng could be calculated. All the identified stores were subsequently approached (with the assistance of the DWAF formal letter requesting cooperation) and the relevant firewood information requested.

Unfortunately this was mostly unsuccessful. Pick & Pay was the only store to supply some information see annexure E – Pick & Pay data. However when this was followed up for clarity and additional information requested such as the suppliers of their braaiwood, Pick & Pay then also withdrew completely. Numerous follow up attempts were entirely ignored.

Initially Shoprite Checkers indicated a willingness to participate. When they understood the extent of the study however, they withdrew without explanation.

All the oil companies were approached who invariably referred the research team to their retail sections. Despite persistent attempts (even to the extent of physically visiting their premises), none of them wanted to participate.

Liquor outlets also sell braaiwood although in lesser volumes than the other two categories. Unfortunately the same resistance was experienced when central operations were approached for information. Annexure F – Liquor City Gauteng Branch Network, reflects the typical branch outlet structure where central operations could provide very useful information.

Interestingly, outlets within the target areas and across the different categories when individually approached were more than willing to co-operate. However, the information gleaned was conjectural, difficult to standardise and they mostly have only speculative information about suppliers, as it appears that they generally have limited procurement authority. (See Annexures R and S: Results of interviews with Retailers within target areas – Johannesburg and Tshwane / Pretoria).

It is evident that retailers consider the required information at a centralised level to be sensitive in terms of confidential operational matters. Granted, in the wrong hands it could be exploited, especially if it is available per group. However, data at this level provides the ideal opportunity for DWAF to continuously monitor consumption levels of wood products (protected or not). It is therefore recommended that:

- A specific project should be undertaken focused on persuading these key stakeholders to participate in a manner that is non-threatening to their existing operations or market positions.
- This should be introduced by precursory awareness campaigns and workshops to explain the impact of the over-utilisation of protected species. The aim of the campaign should be to create a similar awareness to for example organic produce or dolphin friendly tuna products, ultimately to have each tree product on sale certified as NFA compliant.
- An independent certification process needs to be established to prevent misrepresentation similarly to that of organic product certification.
- An information system be designed allowing for regular data to be anonymously supplied to track the volume, category and source of tree products consumed relative to a specific area.

Such a project can contribute significantly to the awareness of protected tree species and conservation of sensitive ecosystems.

Retailers at Operational Level

Firstly all retailers selling firewood within a targeted area were identified, reasons for the survey explained and interviewed. A structured questionnaire was used to gather the required information.

Following below is a list of all the retailers per target area / suburb interviewed.

Johannesburg

(See Annexure R: Results of interviews with Retailers within target areas – Johannesburg)

- **Soweto (Diepkloof)**

a) Engen Garage, Osizweni, Zone 6
b) BP Express, Zone 6 (near Baragwanath Hospital)
c) Engen Garage, Zone 6 (near Baragwanath Hospital)
d) Score Supermarket, Zone 6 (near Baragwanath Hospital)
e) BP Garage, Old Potchefstroom road (near Baragwanath Hospital)
f) Engen Garage, Cnr Ben Naude and Munnik
g) Market place for vendors along Munnik Street opposite the garage was also investigated and had neither charcoal nor wood

h) Market place for vendors along Alf Khumalo Street was also investigated and found with neither charcoal nor wood
i) BP Express Garage, Soweto Highway Motors, Cnr Munnik and Soweto Highway
j) Engen Garage, 1076 Martinus Street, Diepkloof Zakes Retail Centre
k) Vegetables market place

- **Westdene**

a) BP Garage, Cnr Perth and Portland Street
b) Engen Garage, Perth Street, Opposite Helen Joseph Hospital
c) Caltex Garage, Thornton road
d) Student Take Away shop, Thornton road Engen garage
e) Quick Spar, Thornton road
f) Engen Garage, Cnr Edward and Gold road

- **Hillbrow**

a) Shoprite, Cnr Pretoria and Banquette Street
b) Hillbrow Spar, Cnr Carolina and Claim Street
c) Spar Supermarket, Highpoint
d) Jamaican Supermarket, Kotze Street
e) BP Garage, Cnr Kotze and Klein
f) Shell Garage, Cnr Edith Carvel and Kotze Street
g) R5 Wholesale, High Point (Underground shop), Kotze Street
h) Buy Rite Sweet and Vegetables, Kotze Street, Hillbrow Central
i) Engen Garage, Cnr Van der Merwe and Twist Street
j) Brenthurst BP Express Garage, Cnr Claim and Yetta Street
k) Fruit and Vege Market, inspected and has neither wood nor charcoal
l) Mega Hypermarket, No wood or charcoal
m) Hillbrow Supermarket, No wood or charcoal
n) Hypermarket Butchery, No wood or charcoal
o) SA Supermarket, No wood or charcoal

- **Yeoville**

a) Food for Africa Supermarket, Raleigh Street
b) Hypermarket, Raleigh Street
c) Super Saver Supermarket, Raleigh Street
d) Golden Meat N Meat. Raleigh Street
e) Yeoville Hypermarket, Raleigh Street
f) Shoprite, Raleigh Street

- **Rosebank**

a) Engen Garage, Oxford Convenient Centre, Oxford Road
b) Shell Garage, Cnr Barker and Bath
c) Pick n Pay, Rosebank Mall
d) Caltex Garage, Jan Smuts Avenue – Manager, Shabir

Table 3: Summary of volumes reported sold in Johannesburg[5]

Area	Normal Monthly Sales[6]	Monthly Sales during Festive Season
Hillbrow	526	984
Yeoville	400	910
Westdene	620	860
Rosebank	240	260
Soweto	630	1650
Total	**2416**	**4664**

Tshwane / Pretoria
(See Annexure S: Results of interviews with Retailers within target areas – Tshwane / Pretoria)

- **Silverton**

a) Engen Garage, Pretoria Motors, Pretoria Street
b) Supersport Liquor, Silverton Village, 31 Pretoria Road
c) Village Café and Take Away, Silverton Village, 31 Pretoria Road
d) Carlos Liquor Store, Pretoria Road
e) Shell Garage, Cnr Pretoria and Fakkel
f) Hot Spattan, Pretoria Road
g) Seven Eleven Shop, Pretoria Road
h) Shoprite, Silverton Metropolitan Mall
i) Uitkyk Food Market and Bakery
j) Uitkyk Supermarket and Hardware & Firewood Stall, Uitkyk Mall, Silverton

- **Sunnyside**

a) Checkers, Sunny Park Mall, Essellen Street
b) Abisha Motors Garage, Troy Street
c) Republic Market Garden, Leyds Street
d) Shoprite, Essellen Street
e) Shell Garage, Essellen Street
f) 331 Sunnyside Green Grocer Café, Essellen Street
g) AWA & SONS, Essellen Street
h) 8 Till Late Fruit and Vege, Essellen Street
i) BP Sunnyside, Jeppe Street
j) Sunnyside Meat and Chicken, Cnr Jeppe and Kotze Street

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[5] Based on reports as reflected in Annexure R: Results of interviews with retailers within target areas - Johannesburg
[6] All products in number of bags (Hardwood, softwood, Charcoal, Briquettes) combined and added to give a rough estimate of monthly sales.

k) Sunny Park Green Grocer, Cnr Jeppe and Essellen Street
l) Tony Liquor Store, Essellen Street - Manager, Steve

- **Lynwood**

a) BP Garage, Charles Street
b) Shell Garage, Lynwood Road
c) Varsity Bakery, Lynwood road
d) Engen Garage, Lynwood road

- **Littleton Manor**

a) Shell Garage, Kruger Street
b) Spar Shop, Kruger Street
c) Engen Motor Call, Azelle, Supervisor
d) The Highlands Super Spar, Jean Avenue - Manager-Jurie
e) BP Garage, Cnr Jean Avenue and Rabie Street
f) Zennex Garage, Cnr Jean Avenue and Rabie Street
g) Littleton Motors, Quick shop and Garage, Cnr Cantomans and Selbourne Avenue

- **Atteridgeville**

a) Shell Garage, Mareka street
b) Joe Mphogo, a Vendor – Moagi General Dealer, Mokgatle street
c) Zakes, Vendor, Mokgatle street opposite the Zennex Garage
d) Engen Garage, Mareka and Komane street
e) Engen Garage, Maunde street
f) Machaba Charles, Vendor, Marike street

Table 4: Summary of volumes reported sold in Tshwane / Pretoria[7]

Area	Normal Monthly Sales[8]	Monthly Sales during Festive Season
Silverton	1725	2765
Lynwood	415	365
Sunnyside	480	480
Littleton Manor	2255	2615
Atteridgeville	630	860
Total	**5505**	**7085**

Table 5: Summary of volumes reported sold in Johannesburg and Tshwane / Pretoria

[7] Based on reports as reflected in Annexure R: Results of interviews with retailers within target areas - Johannesburg

[8] All products in number of bags (Hardwood, softwood, Charcoal, Briquettes) combined and added to give a rough estimate of monthly sales.

Area	Normal Monthly Sales	Monthly Sales during Festive Season
Total Johannesburg	2416	4664
Total Tshwane	5505	7085
Total study area	**7921**	**11749**

Analysis of firewood sampling exercise
Over and above the initial sampling during the pilot phase, an additional seven bags of firewood were collected for sampling during the retailers' survey. These samples were bought from different outlets selling firewood in the Johannesburg Metro and Tshwane Metropolitan areas. The collection of these bags of wood for sampling was informed by the difficulty in immediate identification of such wood, for example the bushveld mix label and those that are coded "products of Namibian intruder bush". The purpose of the exercise was to test whether these tree products were firstly indigenous tree species and secondly if they were on the list of protected species.

Of the eleven bags sampled, all of them were identified as indigenous tree species while only one; *Combretum imberbe* or Leadwood is listed by DWAF as a protected species. All of the species identified, including the protected species mentioned, are typical bushveld species that are generally used for firewood. However, for the purposes of charcoal production, Leadwood is not a preferred species, as it takes much longer to process.

Based on the above analysis it could be reasonably concluded that the large number of firewood products sold are indeed indigenous tree species but not protected tree species unless so labelled. See Annexure A: Firewood sampling reports.

6.2.2 Structured Interviews with identified Suppliers / Harvesters

Follow up meetings with suppliers could not take place due to the unwillingness to disclose information at head office / central operations levels. Most managers at branch levels either did not have access to this type of information or if they did know suppliers, were confused between wholesalers and producers.

In the case where producers were tracked down they were mostly reluctant to provide sensitive business / competitive information.

6.2.3 Consumer Survey

The consumer survey was carried out in the two Gauteng Metropoles, Johannesburg and Tshwane/Pretoria within the randomly selected respective five identified areas / suburbs (Johannesburg –

Diepkloof/Soweto, Westdene, Hillbrow, Yeoville and Rosebank and Tshwane/Pretoria – Silverton, Atteridgeville, Sunnyside, Montana Park, Lynwood and Littleton Manor)

The city of Johannesburg has a total population of 3, 2 million people and the city of Tshwane 1, 9 million people. The rest of Gauteng consists of the Ekurhuleni Metropole, the Metswadeng District Municipality and the Westrand District Municipality. (Official Yearbook – Local Government in SA, 2004 – 2006)

To ensure an error margin of 5%, it was planned to interview 400 randomly selected consumers in each of the designated areas or suburbs i.e. 400 interviewees multiplied by five areas. Thus a total of 2000 consumers in Johannesburg and Tshwane / Pretoria or 4000 respondents were to be interviewed.

According to Stephen and Michael (1981)[9] for a population of more than 100 000, a random sample of at least 400 is necessary for a 95% confidence level (C = 0, 95). This means that there is a 5% chance that the result will not fall within the specified margin of error. In other words there is a 95% surety that conclusions based on the sample accurately reflect the total population.

Data capturing and tabulation were done in-house and submitted to Siphosenkosi Dlamini social consultants for processing and statistical analysis. The Statistica 7 software package was used for this purpose.

The total number of participants actually interviewed in the study was 4396 due to an additional suburb investigated in Tshwane / Pretoria. An equal number of 400 participants were selected from each suburb. Overall, about two thirds of males (61.6%) were interviewed compared to their female counterparts (38.4%) (See table 6). The table below also shows that the largest proportion (almost 80 percent) of participants was aged between 25 and 39.

Table 6: Age and gender of participants

Age	***Gender***		
	MALE (%)	***FEMALE (%)***	***TOTAL***
15-19	5(0.2)	8 (0.5)	13 (0.3)
20-24	132 (4.9)	205(12.2)	337(7.7)
25-29	1014 (37.5)	960 (56.9)	1974(45)
30-34	1085 (40.2)	388 (23.0)	1473 (33.6)
35-39	381 (14.1)	100 (5.9)	481 (11.0)

[9] Isaac, Stephen and William B. Michael. 1981. *Handbook and Research Methods.* 2nd ed. Newbury Park, Calif: Sage Publications.

40-44	52 (1.9)	16 (0.9)	68 (1.5)
45-49	14 (0.5)	5 (0.3)	19 (0.4)
50-54	9 (0.3)	4 (0.2)	13 (0.3)
55-59	5 (0.2)	0 (0)	5 (0.1)
60-64	5 (0.2)	0 (0)	5 (0.1)
TOTAL	**2702 (61.6)**	**1686 (38.4**	**4388 (100)**

Table 7 shows that more than half of the participants' income is between R5001-R10000. However, nearly one quarter of them earn less than R10 000.

Table 7: Income of participants

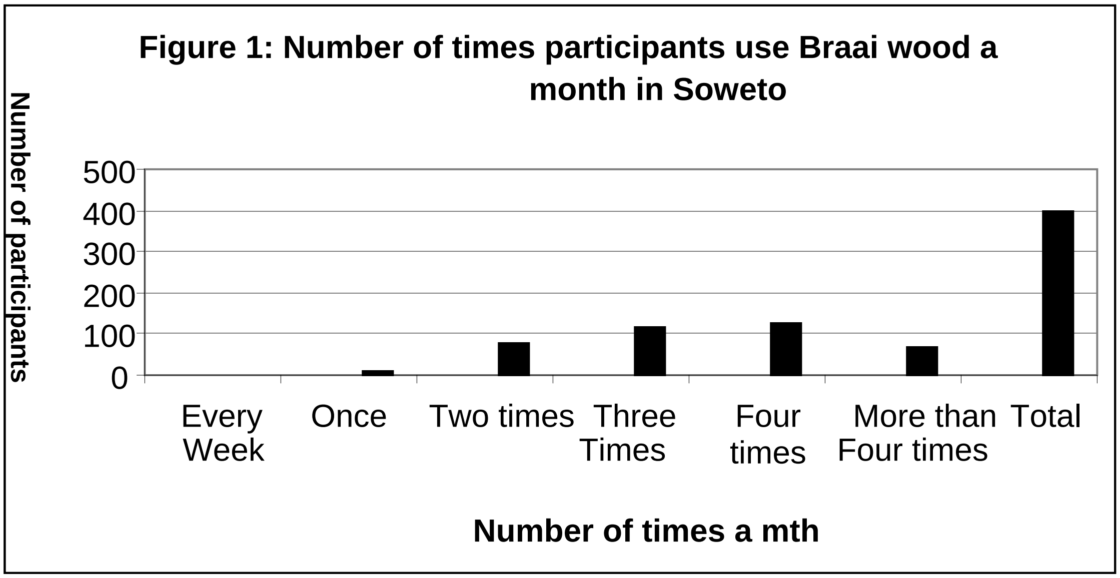
Income	*Frequency*	*Percent*
0 – 5000	1038	23.8
5001- 10000	2241	51.4
10001-15000	1003	23.0
15001- 25000	79	1.8
25001- 35000	1	0
35000 or more	1	0
Not applicable	1	0
Total	**4364**	**100**

Discussion of Data in the identified areas

Please note that the overall results are available in standardised format in annexures G to Q. The following tables have been selected to illustrate specific findings within the respective target areas.

Soweto-Diepkloof (Johannesburg)

More than three quarters of the participants earn less than R10000. Soweto-Diepkloof does not deviate much from other areas selected in the study (See annexure G). Figure 1 shows that almost half of the participants use braai wood two or three times a month compared to 20 percent who use it more than four times a month. All the participants of Soweto-Diepkloof use wood for Braai and charcoal in particular (see Annexure G).



The reason given by 45.25 percent of the participants for using charcoal is that it is good for Braai and 18.75 percent reported that it is the only braai wood sold around (Table 8).

Table 8: Reason for choice of wood

Reason	Frequency	Percent
Good for braai	*181*	45.25
It's the only braai wood sold around	*75*	18.75
Its quick to catch fire	*49*	12.25
It lasts longer	*30*	7.50
It's the traditional braai wood	*25*	6.25
User friendly	*4*	1.00
Its cheaper	*4*	1.00
Other	*32*	8.00
Total	***400***	100.00

More than 80 percent of the Soweto-Diepkloof participants buy charcoal from petrol filling stations/garages (See annexure G). Most of them (93.3 percent) buy charcoal throughout the year. About two thirds of them buy two bags of charcoal per month. Almost all (98 percent) of the participants reported that the price of charcoal does not fluctuate in Soweto-Diepkloof.

Table 9: Knowledge of act and types of protected tree species

Knowledge of protected trees	***Frequency***	***Percent***
Yes	*296*	*74*
No	*104*	*26*
Total	*400*	*100*
Types of protected trees		

Don't know names	*234*	*58.50*
Not applicable	*103*	*25.75*
Baobab	*33*	*8.25*
Scarce indigenous trees	*11*	*2.75*
Cycads	*8*	*2.00*
Trees in natural parks	*4*	*1.00*
Cycads and baobab	*4*	*1.00*
Don't know	*1*	*0.25*
Other	*2*	*0.50*
Total	*400*	*100.00*
Aware of Act pertaining to harvesting of protected tree species in SA		
Yes	*22*	*5.5*
No	*378*	*94.5*
Total	*400*	*100*
Name of Act		
Forest management Act	*18*	*4.5*
Not applicable	*378*	*94.5*
Don't know	*4*	*1.0*
Total	*400*	*100*

Three quarters of participants have knowledge of protected trees and 58.5 percent of them don't know the names of those protected tree species (Table 9 above). On the contrary, 95 percent of participants are not aware of the National Forests Act.

Yeoville (Johannesburg)

In Yeoville, 21 percent of the participants earn more than R10 000 per month and more than 80 percent of them use braai wood more than three times a year. They all use wood for braai and the popular form of this source for all of them is charcoal. About half of the participants think charcoal is good for braai as compared to other types of wood (Table 10).

Table 10: Reasons for choice of wood

Reason	***Frequency***	***Percent***
Good for braai	*205*	*51.25*
Its cheaper	*57*	*14.25*
Its quick to catch fire	*60*	*15.00*
Its traditional braai wood	*49*	*12.25*
It last longer	*13*	*3.25*
Other	*16*	*4.00*
Total	*400*	*100.00*

87 percent of the participants reported that they buy their wood from supermarkets and 95 percent buy it throughout the year.

Four out of five participants buy two or three bags per month. All the participants reported that the price of wood remains stable through out the year. Almost all the participants know that there are protected tree species but they don't know the names of such trees. None of the participants know or are aware of the National Forests Act. (See Annexure H)

Rosebank (Johannesburg)

In Rosebank, almost 37 percent of the participants earn more than R10 000 per month and 83.3 percent use braai wood more than three times a month. About 99.8 percent of the participants use wood for braai and 98.2 percent use charcoal (Table 11).

Table 11: Type of wood used by participants

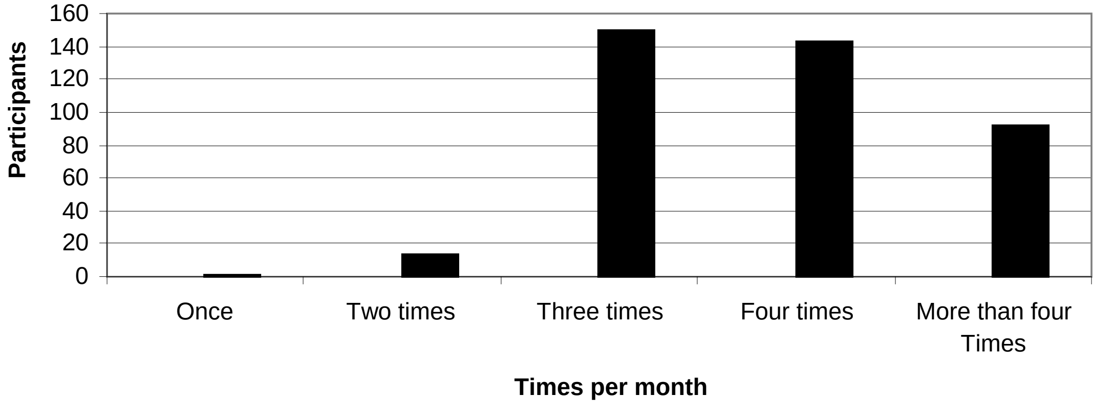
Type of wood	***Frequency***	***Percent***
Hardwood and charcoal	*5*	*1.3*
Charcoal	*393*	*98.2*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*2*	*0.5*
Total	*400*	*100*

The reason they reported for using charcoal is that it is good for Braai (51.3 percent), its cheaper (15.3 percent) and it's a traditional braai wood (16.5 percent). More than 90 percent of the participants buy their wood from filling stations and supermarkets. Most of the participants (97 percent) buy wood throughout the year. All of them reported that the price of wood doesn't fluctuate and more than three quarters buy two or three bags per month. Like many areas discussed in this study the all the participants know that there are protected species of trees and most of them don't know their names (93.5 percent). None of the participants know about the Act pertaining to harvesting of protected trees in South Africa. (See Annexure I)

Westdene (Johannesburg)

About 70 percent of the participants in Westdene earn R10 000 or less per month and 98 percent use wood for braai. Figure 2 shows that almost three quarters of the participants buy braai wood three or four times a month.

Figure 2: Number of times participants use braai wood per month in Westdene



The type of wood they buy is charcoal (52 percent) and hardwood (Sickle bush, Leadwood, Camel thorn and Bushveld mix) (26.25 percent). See table 12 below.

Table 12: Type of wood used by participants

Type of wood	*Frequency*	*Percent*
Hardwood and charcoal	*81*	*20.25*
Exotic hard and soft wood	*6*	*1.50*
Charcoal	*208*	*52.00*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*105*	*26.25*
Total	*400*	*100.00*

The participants reported that the braai wood they use is good for braai (38.3 percent), it is the traditional braai wood (15.8 percent) and hardwood makes strong fire and good coal (30.8 percent). More than 92 percent buy wood from filling stations and supermarkets and they buy it through out the year. All the participants reported that the price of wood doesn't fluctuate but it remains stable throughout the year. About 80 percent of the participants buy three or four bags per month. All the participants know that certain species of trees are protected and 78 percent don't know their names. None of them know or are aware of the Act pertaining to harvesting of protected trees in South Africa. (See Annexure J)

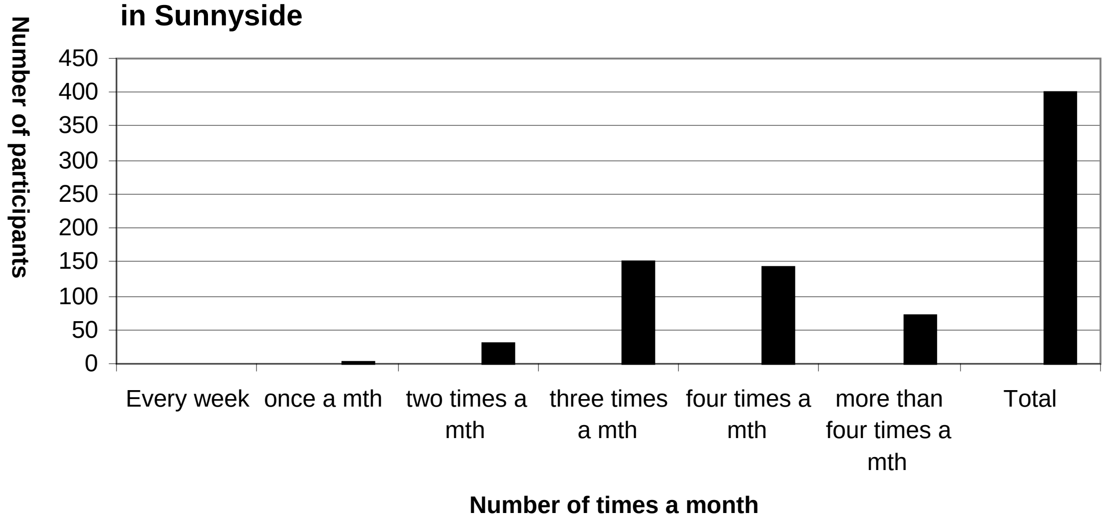
Hillbrow (Johannesburg)

About 55 percent of Hillbrow participants earn less than R5 000 per month and 95 percent earn less than R10 000. All the participants in this study don't braai or use braai wood. About 99 percent of the participants know that there are protected tree species but more than 90 percent don't know their names. Almost all (99.3 percent) of the participants don't know the Act pertaining to harvesting of protected trees in South Africa. (See Annexure K)

Sunnyside (Pretoria)

Almost half of Sunnyside participants in Pretoria earn between R5000 and R10 000 and 72 percent earn less than R10 000, which is also comparable to Soweto-Diepkloof in Johannesburg. Figure 3 shows that in Sunnyside over 70 percent of the participants buy braai wood three or four times a month. Almost all the participants (97 percent) buy wood through out the year (See Annexure L).

Figure 3: Number of times participants use braai wood per month in Sunnyside



The type of braai wood product that is mostly used by participants (45 percent) is charcoal and 33.25 percent use both hardwood and charcoal (Table 13).

Table 13: Type of wood used by participants

Type of wood	*Frequency*	*Percent*
Hardwood and charcoal	*133*	*33.25*
Exotic hard and soft wood	*14*	*3.50*
Charcoal	*180*	*45.00*

Hardwood (sickle bush, Leadwood, camel thorn, bushveld mix)	*73*	*18.25*
Total	*400*	*100.00*

Table 14 shows that over one third of the participants reported that the reason for using charcoal is that it is good for braai and 26 percent reported that hardwood makes a strong fire and good coal.

Table 14: Reason for choice of wood

Reason	***Frequency***	***Percent***
Good for braai	*138*	*34.50*
Hardwood makes strong fire and good coal	*105*	*26.25*
Its quick to catch fire	*29*	*7.25*
It lasts longer	*12*	*3.00*
It's the traditional braai wood	*75*	*18.75*
Hardwood is multiple purpose wood	*7*	*1.75*
Its cheaper	*7*	*1.75*
Other	*27*	*6.75*
Total	*400*	*100.00*

Over four fifths of the participants buy their wood at filling stations/garages, supermarkets and vendors and 42 percent agreed that the price of wood fluctuate and it is more expensive in winter (See Annexure L). About 80 percent of the participants buy two or three bags per month.
Almost all (99.8 percent) of participants in Sunnyside are not aware of the National Forests Act. Even though all participants reported to know that there are protected tree species. Almost Ninety percent reported that they don't know the names of these protected tree species.

Atteridgeville (Pretoria)

In Attridgeville, about 23 percent of the participants earn more than R10 000 per month. Almost 80 percent use braai wood two or three times a year. They all use braai wood and they prefer charcoal. More than 80 percent of the participants reported that the reason they use charcoal is because it is good for braai and it's the only braai wood sold in Atteridgeville. Table 15 below shows that 98 percent buy their wood either from filling stations or vendors or both.

Table 15: Place to buy wood

Place	***Frequency***	***Percent***
Filling stations/garages	*127*	*31.75*
Vendors	*8*	*2.00*
Filling stations/garages and vendors	*263*	*65.75*
Other	*2*	*0.50*

Total	*400*	*100.00*

More than two thirds buy wood throughout the year and almost 99 percent disagreed that the price of wood fluctuate and on average 97 percent buy one or two bags per month (figure 4)

Figure 4: Number of bags participants buys per month

Over 80 percent of these participants know that there are protected tree species but 63.3 percent don't know the names of the trees. Surprisingly, over 98 percent are not aware of the National Forests Act. (See Annexure M)

Silverton (Pretoria)

Silverton participants (68.2 percent) earn less than R10 000 and 18 percent buy braai wood more than four times a month. About half buy two or three bags per month.

Table 16: Use of wood by participants

Use of wood	*Frequency*	*Percentages*
Braai	*373*	*94.4*
Braai and heating	*20*	*5.1*
Heating	*2*	*0.5*
Total	*395*	*100*

Table 16 shows that 94.4 percent of the participants use wood for braai. Almost a quarter use both hard wood and charcoal, and 60.4 percent use charcoal only (Table 17).

Table 17: Type of wood used by participants

Type of wood	*Frequency*	*Percent*
Hardwood and charcoal	*97*	*24.49*
Exotic hard and soft wood	*4*	*1.01*
Charcoal	*239*	*60.35*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*53*	*13.38*
Other	*3*	*0.76*
Total	*396*	*100*

There are three main reasons given by participants for using their choice of wood one is that its good for braai (25.8 percent), the other is that it is quick to catch fire (19.2 percent), and thirdly it lasts longer (21.7 percent). More than two thirds of the participants buy wood from filling stations and supermarkets. They normally buy wood in summer (32.3 percent) winter (6.8 percent) and 59.8 percent buy it throughout the year. Half of the participants reported that the price of wood fluctuates and 46.7 percent reported that in winter it is more expensive. About 90 percent of the participants buy between two to five bags per month. Like many areas in the study, Silverton is no exception, 96 percent of the participants know that there are protected tree species and 84.1 percent of them don't know their names. At least, 30 participants out of the 396 are aware of the Act and 5 of them even reported the name of the Act. (See Annexure N)

Montana Park (Pretoria)

About 37 percent of the participants of Montana Park earn above R10 000 per month and the income of more than half of participants is between R5 001-R10 000. Almost three quarters of the participants buy wood three or four times per month and 96.5 percent use it for braai. The type of wood they buy is charcoal (49 percent), hardwood (sickle bush, Leadwood etc) (31.3 percent) and hardwood and charcoal (31.3 percent).

Table 18: Reasons for choice of wood

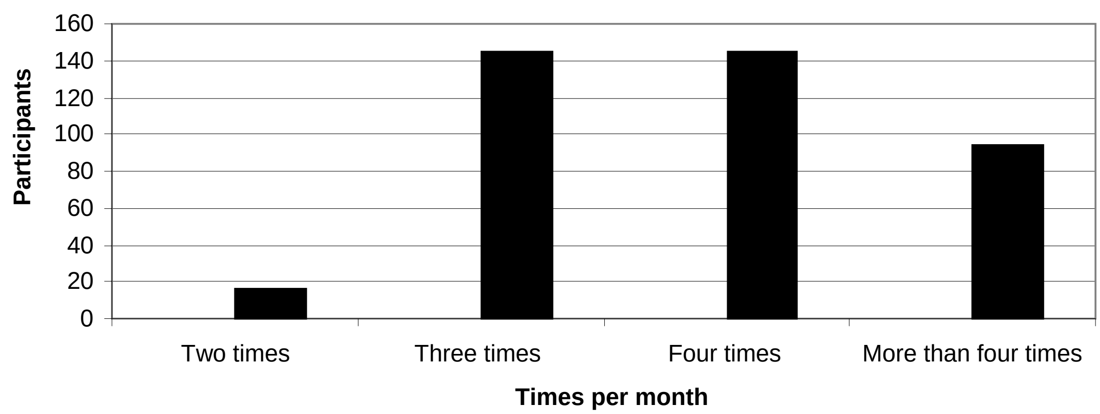
Reasons	*Frequency*	*Percent*
Good for braai	*168*	*42.00*
Its cheaper	*9*	*2.25*
Its quick to catch fire	*37*	*9.25*
Its traditional braai wood	*46*	*11.50*
It lasts longer	*6*	*1.50*
Hardwood makes strong fire and good coal	*116*	*29.00*
Hardwood is multiple purpose wood	*6*	*1.50*
Other	*12*	*3.00*
Total	*400*	*100.00*

Table 18 indicates that the main reasons reported for using wood are that it is good for braai (42 percent); hardwood makes strong fire and good coal (29 percent). They mainly buy their wood from filling stations and vendors (28.5 percent), and filling stations and supermarkets (68.3 percent). Almost all (99 percent) of them buy it throughout the year and they reported that the price of wood does not fluctuate. Almost 80 percent of the participants buy two or three bags of wood per month and 99 percent know that there are protected tree species and they don't know their names. Almost the same percentage does not know about the Act. (See Annexure O)

Lynnwood (Pretoria)

In Lynwood, about 73 percent of the participants earn R10 000 or less per month. Figure 5 shows about 73 percent buy wood three or four times a month and 98 percent use the wood for braai purposes.

Figure 5: Number of times participants use braai wood a month



The type of wood they use is both hardwood and charcoal (22.3 per cent), charcoal only (50.8 percent) and hardwood only (26.3 percent). The reasons for using their choice of wood is that it is good for braai (44.0 percent), it is the traditional braai wood (19.8 percent), and hardwood makes strong fire and good coal.

Table 19: Place where participants buy wood

Place	*Frequency*	*Percent*
Filling stations only	*176*	*44.00*
Vendors	*4*	*1.00*
Filling stations and vendors	*77*	*19.25*
Filling stations and supermarkets	*139*	*34.75*
Supermarkets only	*3*	*0.75*
Other	*1*	*0.25*

Total	*400*	*100.00*

Table 19 above shows that almost 99 percent of the participants buy wood from filling stations, with 44 percent from filling stations only and 54 percent from filling stations, vendors and supermarkets. 99 percent buy wood throughout the year.

The same percentage reported that the price of wood doesn't fluctuate. Two fifths of the participants buy four bags per month. Almost all (99.8 percent) participants are aware of the fact that there are protected tree species and 82 percent do not know the names of these trees. Almost all of them do not know the National Forests Act. (See Annexure P)

Littleton Manor (Pretoria)

About two thirds of Littleton participants earn between R5000 and R10 000 and more than 72 percent buy wood three or four times a month. Most of the participants (98.5 percent) use wood for Braai and the most popular type of wood is charcoal (54 percent) followed by hardwood (28.3 percent). The same proportion of participants (34.5 percent) reported that their choice of wood was good for braai and hardwood makes strong fire and it provides good coal. About 70 percent buy wood from filling stations and supermarkets and 99 percent buy wood through out the year. The price of wood doesn't fluctuate much in Littleton.

Table 20: Knowledge of protected tree species, Act and name of Act by participants

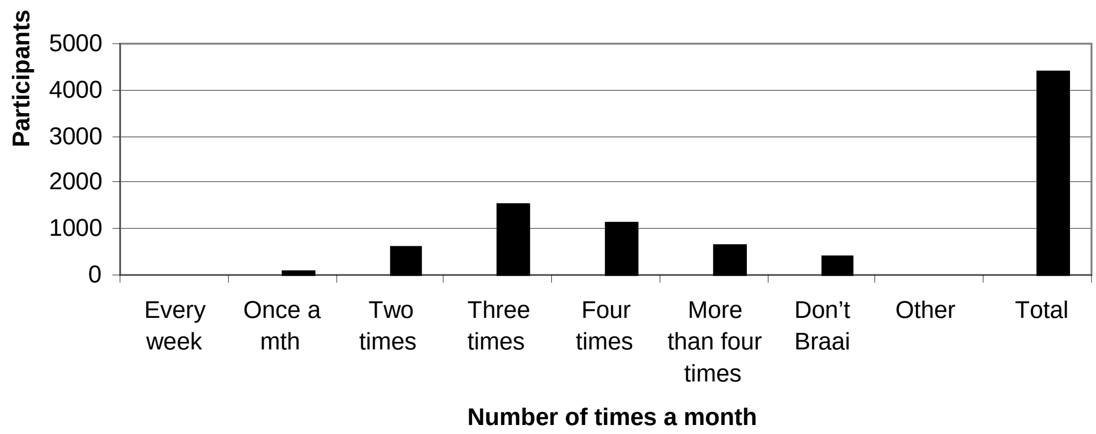
Do you know protected trees	***Frequency***	***Percent***
Yes	*399*	*99.8*
No	*1*	*0.2*
Total	*400*	*100*
Awareness of the Act		
Yes	*1*	*0.2*
No	*399*	*99.8*
Total	*400*	*100*
Name the Act		
Not sure	*1*	*0.3*
Forest management Act	*1*	*0.3*
Not applicable	*397*	*99.4*
Total	*399*	*100*

Table 20 shows that 99.8 percent of the participants are aware that there are protected tree species. Eighty percent reported that they don't know the names of the trees. Only one of the participants is aware of the forest management Act. (See Annexure Q)

Consumer Survey Summary and Conclusions

In conclusion, there is no distinct difference in terms of income in sampled areas. Half of the participants earn between R5000 and R10 000. Figure 6 shows that one third of the participants use braai wood at least three times a month, apart from the 10 percent from Hillbrow that don't braai at all.

Figure 6: Number of times participants use braai wood a month



About 90 percent of the participants in this study use wood for braai (Table 21) and the most popular wood product is in the form of charcoal (64.4 percent) (Table 22).

Table 21: Use of wood by participants

Use of wood	*Frequency*	*Percentages*
Braai	*3922*	*89.3*
Braai and heating	*71*	*1.6*
Heating	*2*	*0.0*
Not applicable	*397*	*9.0*
Other	*4*	*0.1*
Total	*4396*	*100*

Table 22: Type of wood used by participants

Type of wood	*Frequency*	*Percent*
Hardwood and charcoal	*601*	*13.7*
Exotic hard and soft wood	*41*	*0.9*
Charcoal	*2833*	*64.3*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*518*	*11.8*
Not applicable	*397*	*9.0*
Other	*6*	*0.3*
Total	*4396*	*100*

More than one third of the participants claim that it is good for braai and 15 percent reported that hardwood makes strong fire and good coal (Table 23).

Table 23: Reasons for choice of wood

Reasons	*Frequency*	*Percentages*
Good for braai	*1603*	*36.46*
Its cheaper	*171*	*3.89*
It's the only braai wood sold around	*248*	*5.64*
Its always available	*13*	*0.30*
Its quick to catch fire	*343*	*7.80*
Its traditional braai wood	*488*	*11.10*
It last longer	*203*	*4.62*
Hardwood makes strong fire and good coal	*637*	*14.49*
Hardwood is multiple purpose wood	*58*	*1.32*
Good for Braai, quick to catch fire and its available	*15*	*0.34*
Good for braai, smokeless, reusable and cheap	*54*	*1.23*
User friendly	*35*	*0.80*
Not applicable	*397*	*9.03*
Other	*131*	*2.98*
Total	*4396*	*100*

Table 24 indicates that 30.9 percent of the participants buy wood from filling stations and supermarkets and a quarter buy only from filling stations.

Table 24: Place where participants buy wood

Place	*Frequency*	*Percentages*
Filling stations only	*1127*	*25.6*
Vendors	*37*	*0.8*
Filling stations and vendors	*695*	*15.8*
Filling stations and supermarkets	*1357*	*30.9*
Supermarkets only	*621*	*14.1*
Liquor store/filling stations/supermarkets	*70*	*1.6*
Not applicable	*398*	*9.1*
Other	*91*	*2.1*
Total	*4396*	*100.0*

There is a small proportion (9 percent) of those participants who buy wood either in summer or winter.
More than 80 percent buy wood throughout the year and almost the same proportion of participants reported that the price of wood doesn't fluctuate - it remains steady throughout the year. The proportion of participants who are likely to buy two bags is 36.6 percent, three bags (29.5 percent) and four bags is 20.4 percent per month (table 25).

Table 25: Number of bags participants buy per month

Number of bags	Frequency	Percentages
One bag	149	3.4
Two bags	1608	36.6
Three bags	1296	29.5
Four bags	896	20.4
Five bags	26	0.6
Six bags	6	0.1
Seven bags	1	0.0
Eight bags	4	0.1
Eight bags or more	2	0.0
Not applicable	397	9.0
Other	11	0.3
Total	4396	100.0

A high proportion (95.5 percent) of the participants is aware of the fact that there are protected tree species and 83.2 percent don't know the trees names.

Table 26: Knowledge of protected tree species, Act and name of Act by participants

Do you know about protected trees	Frequency	Percentages
Yes	4199	95.5
No	195	4.5
Total	4394	100
Awareness of the Act		
Yes	63	1.43
No	4332	98.54
Don't know	1	0.02
Total	4396	100.00
Name the Act		
Not sure	3	0.07
Forest management Act	27	0.62
Not applicable	4321	99.31
Total	4351	100.00

Almost 5 percent of the participants reported Baobab and cycads (2.2 percent) and other trees species. Surprisingly an overwhelming majority (98.5 percent) of the participants are not aware that there is an Act that protects certain tree species and that regulate harvesting of these species in South Africa. As a result 98.6 percent could not name the Act (table 26).

7. Conclusions and Recommendations

In hindsight the objectives of this study were over optimistic in particular due to the unregulated nature of the firewood industry. Both traders and producers / harvesters experienced the study as extremely threatening to their businesses. The only group, which participated unconditionally, was consumers, as they have had nothing to lose.

The disappointing results in respect of the need for quantifying the market size and the origin of the tree products were the main reason for delaying the conclusion of the study. Although retailers at branch levels provided some data, this was hardly useful, as it couldn't be standardised to give a macro picture of firewood consumption, and unfortunately, the size of the market therefore continues to be speculative. A major requirement of the study was to determine where firewood is sourced. As the national retailers declined to not only provide sales records, they also refused to provide information about their suppliers. In the case of individual branches within the target areas (food outlets, filling stations, etc.) owners / management appear to have limited information and generally confused suppliers with agents who in turn refused to provide details or were otherwise unaware as to where firewood was harvested in the first place.

Even though consumers responded on the question of their frequency in using firewood, the questionnaire was designed at the time of expecting a more positive response from retailers and suppliers. It is therefore not possible to infer accurately on firewood quantities consumed based on the available data. However, if the consumer responses are extrapolated to the overall population of the target group the use of braai wood in Johannesburg is 20 428[10] tonnes per month and Pretoria / Tshwane is 11 414[11] tonnes per month i.e. **total of 31 842 tonnes per month!** <u>This translates in over a 1 million kilograms of wood used per day</u>. As overall sales figures are not available due to retailers' lack of cooperation, the reported consumption of braai wood could unfortunately not be corroborated.

The data for consumers show that apart from preferring charcoal for braai purposes actual species preference is not clear. More detailed information is required in order to know the particular species used for braai wood. See recommendations in this regard below.

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[10] Total number of households in Johannesburg: 1 006 931 (Source Gaffney's local government in SA 2004 – 2006 – official yearbook)
Assume survey respondents represent individual households
Consumer survey revealed 3% of respondents bought at least 1 bag of wood/charcoal per month. 37% bought at least 2 bags per month. 30% bought at least 3 bags per month. 20% bought at least 4 bags per month. 1% bought at least 5 bags per month. 9% bought no charcoal.
Assume average size of bags = 3.5kgs (conservative estimation).
At least 65% prefer / use charcoal.
1kg charcoal requires 3kgs wood.

[11] Total number of households in Pretoria / Tshwane: 562 653 (Source Gaffney's local government in SA 2004 – 2006 – official yearbook)

Detailed lists and contact details of retailers in the target areas have been provided but their suppliers couldn't be appropriately identified due to reasons specified. Some producers / suppliers have been recorded but the list is tentative and needs to be purposely followed up once retailers have committed to participate and provide information that is perceived to be non-threatening to their businesses.

In general retailers surveyed in the target areas have little if any knowledge concerning license requirements in dealing with protected tree products. Retailers are mostly unaware of the actual species being sold and it can therefore be reasonably concluded that there is little compliance to the NFA of 1998 regarding protected trees.

Since national retailers (and thus their suppliers) declined to participate in the survey it was problematic to determine the areas of origin of firewood products. As reported, unsuccessful efforts to counter this obstacle caused much delay in the completion of the study.

Regarding awareness levels of consumers, 95% of survey respondents knew that trees are protected but when asked to name specific protected trees, more than 80% didn't know. In addition 98% of respondents were not aware of the NFA. It can therefore be concluded that although consumers have some knowledge about the protection of trees, there is not much awareness about the reasons for and species involved in protection. More than half (64%) of the respondents indicated that they prefer using charcoal. It can thus be inferred that they are not necessarily concerned about the wood used for charcoal production. It would seem that there is no specific preference for any firewood species and it can therefore be concluded that consumers will have no problem in using alternative species provided that quality is maintained

Furthermore, it was discovered that there is not much of a variation of volumes used between summer and winter. However, there is a definite increase of wood use in winter for heating purposes but a similar increase in charcoal use during summer for braai purposes levels out the consumption. Peak times are experienced during the December holiday season where in some reported cases double the normal volumes of firewood / charcoal are consumed.

Unfortunately and due to reasons highlighted above the study was unable to gain an understanding of the volumes associated per species.

In the few cases where discussions with retailers and harvesters took place it became evident that they would be willing to participate in a self-regulation scheme provided that their businesses are not compromised in any way.

It is therefore recommended that:

1. A specific project should be undertaken focused on persuading these key stakeholders to participate in a manner that is non-threatening to their existing operations and / or market positions.

2. The project should be target group specific, i.e. a separate approach should be followed for retailers and suppliers / harvesters / producers.

3. This should be introduced through precursory awareness campaigns and workshops to explain the impact of the over-utilisation of protected tree species. The aim of the campaign should be to create a similar awareness to for example organic produce or dolphin friendly tuna products, ultimately to have each tree product on sale certified as NFA compliant.

4. For this purpose an independent certification process needs to be established to prevent misrepresentation by role players, similarly to that of organic product certification.

5. An information system to be designed allowing for regular data to be anonymously supplied to monitor the volume, category and source of tree products (species) consumed relative to a specific area.

6. A separate campaign to be launched to create awareness among firewood consumers.

Annexure A: Results of Firewood Sample Identification

Timber Information Services
P O Box 1256
HILTON 3245

Tel & Fax: 033 343-2899
Cell: 082-4648978

1 November 2006

Mr I van der Merwe
Forestry Technical and Information Services
Department of Water Affairs and Forestry
Private Bag X93
PRETORIA
0001

Dear Sir

RESULT: IDENTIFICATION OF FIREWOOD SAMPLES: REF. 2006/23

I refer to the consignment of firewood received on 25 August 2006 for identification.

Attached is my report containing the results of the microscopic identification of the samples.

Thank you for using the wood identification service. An invoice for the service is attached.

With kind regards

Stephanie T Dyer

REPORT ON THE IDENTIFICATION OF FIREWOOD SOLD AT DIFFERENT OUTLETS IN PRETORIA

PREPARED FOR: FORESTRY TECHNICAL AND INFORMATION SERVICES DEPARTMENT OF WATER AFFAIRS AND FORESTRY

REFERENCE NO. 2006/23 **DATE: 1 November 2006**

SUMMARY:

Four bags of firewood were examined to determine the identity of the species used. All of the species identified are indigenous trees and are typical bushveld species that are frequently used for firewood. Only one of these species, *Combretum imberbe*, is listed by the Department of Water Affairs and Forestry as a protected species.

1. MATERIALS AND METHODS:

Four bags of firewood collected from various vendors in Pretoria, were received for analysis on 25 August 2006. The consignment consisted of 56 samples altogether.

A pre-assessment of the consignment was done where all samples were examined macroscopically and representative samples from each bag were selected for microscopic identification. Altogether 14 samples were prepared for microscopic analysis, sectioned and permanent slides were prepared.

2. RESULTS

The results of the identification of all the samples are given in the tables 1 to 4 below.

TABLE 1: Origin: Pick ‘n Pay, Eldoraigne, Sample 7. Date: 31 July 2006

SAMPLE NUMBER	RESULT	
	SCIENTIFIC NAME	COMMON NAME(S)
A1	Acacia burkei	BLACK MONKEY THORN/ SWARTAPIESDORING
A2	*Acacia burkei*	BLACK MONKEY THORN/ SWARTAPIESDORING
A3	*Bolusanthus speciosus*	TREE WISTARIA/ VANWYKSHOUT
A4	*Bolusanthus speciosus*	TREE WISTARIA/ VANWYKSHOUT
A5	*Acacia burkei*	BLACK MONKEY THORN/ SWARTAPIESDORING
A6	*Acacia burkei*	BLACK MONKEY THORN/ SWARTAPIESDORING
A7	*Acacia ataxacantha*	FLAME THORN/ VLAMDORING
A8	*Bolusanthus speciosus*	TREE WISTARIA/ VANWYKSHOUT
A9	*Bolusanthus speciosus*	TREE WISTARIA/ VANWYKSHOUT

TABLE 2: Origin: Engen, Lakeside Motors, 010806-1

SAMPLE NUMBER	RESULT	
	SCIENTIFIC NAME	**COMMON NAME(S)**
B1	Acacia burkei	BLACK MONKEY THORN/ SWARTAPIESDORING
B2	*Acacia burkei*	BLACK MONKEY THORN/ SWARTAPIESDORING
B3	Acacia burkei	BLACK MONKEY THORN/ SWARTAPIESDORING
B4	Acacia burkei	BLACK MONKEY THORN/ SWARTAPIESDORING
B5	*Acacia burkei*	BLACK MONKEY THORN/ SWARTAPIESDORING

TABLE 3: Origin: Lotter, behind Total, Hans Strijdom Avenue, 010806-3. Hardekool mix.

SAMPLE NUMBER	RESULT	
	SCIENTIFIC NAME	**COMMON NAME(S)**
C1	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C2	*Combretum apiculatum* subsp*. apiculatum*	RED BUSHWILLOW/ ROOIBOSWILG
C3	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C4	*Acacia caffra*	COMMON HOOK-THORN/ GEWONE HAAKDORING
C5	*Combretum apiculatum* subsp*. apiculatum*	RED BUSHWILLOW/ ROOIBOSWILG
C6	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C7	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C8	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C9	*Acacia nigrescens*	KNOB THORN/ KNOPPIESDORING
C10	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C11	*Acacia nigrescens*	KNOB THORN/ KNOPPIESDORING
C12	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C13	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C14	*Bolusanthus speciosus*	TREE WISTARIA/ VANWYKSHOUT
C15	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C16	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C17	Dichrostachys cinerea *subsp.* africana	SICKLE BUSH/ SEKELBOS
C18	*Acacia caffra*	COMMON HOOK-THORN/ GEWONE HAAKDORING
C19	*Bolusanthus speciosus*	TREE WISTARIA/ VANWYKSHOUT
C20	*Acacia caffra*	COMMON HOOK-THORN/GEWONE HAAKDORING

TABLE 4: Origin: Hans Strijdom Avenue, 010806-2

SAMPLE NUMBER	RESULT	
	SCIENTIFIC NAME	COMMON NAME (S)
D1	Combretum imberbe	LEADWOOD/ HARDEKOOL
D2	Combretum imberbe	LEADWOOD/ HARDEKOOL
D3	Combretum imberbe	LEADWOOD/ HARDEKOOL
D4	Combretum imberbe	LEADWOOD/ HARDEKOOL
D5	Combretum imberbe	LEADWOOD/ HARDEKOOL
D6	Combretum imberbe	LEADWOOD/ HARDEKOOL
D7	Combretum imberbe	LEADWOOD/ HARDEKOOL
D8	Combretum imberbe	LEADWOOD/ HARDEKOOL
D9	Combretum imberbe	LEADWOOD/ HARDEKOOL
D10	Combretum imberbe	LEADWOOD/ HARDEKOOL
D11	Combretum imberbe	LEADWOOD/ HARDEKOOL
D12	Combretum imberbe	LEADWOOD/ HARDEKOOL
D13	Combretum imberbe	LEADWOOD/ HARDEKOOL
D14	Combretum imberbe	LEADWOOD/ HARDEKOOL
D15	Combretum imberbe	LEADWOOD/ HARDEKOOL
D16	Combretum imberbe	LEADWOOD/ HARDEKOOL
D17	Combretum imberbe	LEADWOOD/ HARDEKOOL
D18	Combretum imberbe	LEADWOOD/ HARDEKOOL
D19	Combretum imberbe	LEADWOOD/ HARDEKOOL
D20	Combretum imberbe	LEADWOOD/ HARDEKOOL
D21	Combretum imberbe	LEADWOOD/ HARDEKOOL
D22	Combretum imberbe	LEADWOOD/ HARDEKOOL

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PREPARED FOR:
DIRECTORATE: FORESTRY TECHNICAL AND INFORMATION SERVICES, DEPARTMENT OF WATER AFFAIRS AND FORESTRY

REFERENCE NO. 2007/17 **DATE: 30 August 2007**

SUMMARY:

Seven bags of firewood were examined to determine the identity of the species used. All of the species identified are indigenous trees and are typical bushveld species that are frequently used for firewood. None of these species are listed by the Department of Water Affairs and Forestry as a protected species.

1. MATERIALS AND METHODS:

Seven bags of firewood collected from various vendors in Pretoria, were received for analysis on 8 August 2007. The consignment consisted of 78 samples altogether.

A pre-assessment of the consignment was done where all samples were examined macroscopically and representative samples from each bag were selected for microscopic identification. Altogether 22 samples were prepared for microscopic analysis. These were sectioned and permanent slides were prepared.

2. RESULTS

The results of the identification of all the samples are given in the tables 1 to 7 below.

TABLE 1:
Reference no: Sample 01
Collected from: Uitkyk Vleismark
Collection date: 28 December 2006
Products: Rooihout, Savannah braai and charcoal

SAMPLE NUMBER	RESULT	
	SCIENTIFIC NAME	**COMMON NAME(S)**
01/01	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG
01/02	***Combretum***	RED BUSH WILLOW / ROOIBOSWILG

	apiculatum* subsp. *apiculatum	
01/03	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG
01/04	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG
01/05	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG
01/06	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG
01/07	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG
01/08	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG
01/09	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG
01/10	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG
01/11	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG
01/12	***Combretum apiculatum* subsp. *apiculatum***	RED BUSH WILLOW / ROOIBOSWILG

TABLE 2**:**

Reference no: Sample 02
Collected from: Carlos Liquor Store
Collection date: 29 December 2006
Products: Hardwood products of ALEXIS

SAMPLE NUMBER	**RESULT**	
	SCIENTIFIC NAME	**COMMON NAME(S)**
02/01	***Acacia nilotica* subsp. *kraussiana* OR *A. tortilis* subsp. *heteracantha***	SCENTED THORN / LEKKERRUIKPEUL OR UMBRELLA THORN / HAAK-EN-STEEK
02/02	NOTE: These samples are all similar to 02/01. The exact identity of these	

02/03	samples is uncertain. The microscopic structure of the samples closely resemble the descriptions of both the species listed above and could possibly be one of them.	
02/04		
02/05		
02/06		
02/07		
02/08		
02/09		
02/10		
02/11		
02/12		
02/13		
02/14		
02/15		
02/16		
02/17	*Peltophorum africanum*	WEEPING WATTLE / HUILBOOM

TABLE 3**:**

Reference no: Sample 03
Collected from: Fruit & Veg City, Montana
Collection date: 30 December 2006
Products: Hardwood, Bakgat

SAMPLE NUMBER	RESULT	
	SCIENTIFIC NAME	**COMMON NAME(S)**
03/01	***Burkea africana***	WILD SERINGA / WILDESERING
03/02	*Colophospermum mopane*	MOPANE / MOPANIE
03/03	*Colophospermum mopane*	MOPANE / MOPANIE
03/04	*Colophospermum mopane*	MOPANE / MOPANIE
03/05	*Colophospermum mopane*	MOPANE / MOPANIE
03/06	*Colophospermum mopane*	MOPANE / MOPANIE
03/07	*Colophospermum mopane*	MOPANE / MOPANIE
03/08	*Colophospermum mopane*	MOPANE / MOPANIE
03/09	*Acacia caffra*	COMMON HOOK-THORN/ GEWONE HAAKDORING
03/10	*Colophospermum mopane*	MOPANE / MOPANIE
03/11	*Colophospermum mopane*	MOPANE / MOPANIE

TABLE 4**:**

Reference no: Sample 04
Collected from: Zenex Fuel Station
Collection date: 31 December 2006
Products: Softwood

SAMPLE NUMBER	RESULT	
	SCIENTIFIC NAME	**COMMON NAME(S)**
04/01	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
04/02	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
04/03	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING

04/04	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
04/05	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
04/06	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
04/07	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
04/08	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING

TABLE 5**:**

Reference no: Sample 05
Collected from: Shell Fuel Garage
Collection date: 31 December 2006
Products: Hard- & Softwood

SAMPLE NUMBER	**RESULT**	
	SCIENTIFIC NAME	**COMMON NAME(S)**
05/01	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
05/02	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
05/03	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
05/04	*Colophospermum mopane*	MOPANE / MOPANIE
05/05	*Colophospermum mopane*	MOPANE / MOPANIE
05/06	*Colophospermum mopane*	MOPANE / MOPANIE
05/07	*Colophospermum mopane*	MOPANE / MOPANIE
05/08	***Bolosanthus speciousus***	TREE WISTARIA / VANWYKSHOUT

TABLE 6:

Reference no: Sample 06
Collected from: Student Take-Away
Collection date: 1 January 2007
Products: Hard- / Softwood

SAMPLE NUMBER	**RESULT**	
	SCIENTIFIC NAME	**COMMON NAME(S)**
06/01	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
06/02	*Colophospermum mopane*	MOPANE / MOPANIE
06/03	*Colophospermum mopane*	MOPANE / MOPANIE
06/04	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
06/05	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
06/06	*Colophospermum mopane*	MOPANE / MOPANIE
06/07	*Colophospermum mopane*	MOPANE / MOPANIE
06/08	*Colophospermum mopane*	MOPANE / MOPANIE
06/09	*Colophospermum mopane*	MOPANE / MOPANIE
06/10	*Colophospermum mopane*	MOPANE / MOPANIE
06/11	*Colophospermum mopane*	MOPANE / MOPANIE
06/12	*Colophospermum mopane*	MOPANE / MOPANIE
06/13	*Colophospermum mopane*	MOPANE / MOPANIE

TABLE 7:
Reference no: Sample 07
Collected from: Shell Fuel Station
Collection date: 3 January 2007
Products: Hardwood

SAMPLE NUMBER	RESULT	
	SCIENTIFIC NAME	COMMON NAME(S)
07/01	*Colophospermum mopane*	MOPANE / MOPANIE
07/02	*Colophospermum mopane*	MOPANE / MOPANIE
07/03	*Colophospermum mopane*	MOPANE / MOPANIE
07/04	*Colophospermum mopane*	MOPANE / MOPANIE
07/05	***Acacia nigrescens***	KNOB THORN / KNOPPIESDORING
07/06	*Colophospermum mopane*	MOPANE / MOPANIE
07/07	*Colophospermum mopane*	MOPANE / MOPANIE
07/08	***Bolosanthus speciousus***	TREE WISTARIA / VANWYKSHOUT
07/09	*Colophospermum mopane*	MOPANE / MOPANIE

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Annexure B – Introductory Letter

water & forestry

Department:
Water Affairs and Forestry
REPUBLIC OF SOUTH AFRICA

Private Bag X 313, Pretoria 0001
Tel: (012) 336 7500 , Fax: (012) 323 4472, www.dwaf.gov.za

Tel: (012) 336 7731 Fax: (012) 336 8847 e-mail: vandermerwei@dwaf.gov.za
Enquiries: IJ van der Merwe Ref:

July/August 2006

Dear Sir/Madam

PARTICIPATION IN A STUDY ON THE FIREWOOD MARKET IN GAUTENG

Department of Water Affairs and Forestry is currently conducting a study on the firewood market in Gauteng with the assistance of Selabe and Mokgopo consultants. It will be greatly appreciated if you can assist us with this study by providing them with the necessary information needed. Wood or charcoal samples will also be taken at randomly selected retail outlets by purchasing these samples, and to have the wood types identified macroscopically. This study is done within the mandate of the National Forests Act No 84 of 1998, since the Department of Water Affairs and Forestry is responsible for the monitoring of woodlands and forests and the harvesting, marketing and use of tree products originating from these habitats, especially regarding protected tree species.

The purpose of this study is to gain insight into the nature and size of the firewood market in Gauteng, and the awareness, profile and perceptions of retailers and consumers. Preliminary observations of firewood retail outlets by DWAF officials and discussions with firewood entrepreneurs indicate that the market is huge and growing, and that significant amounts of protected tree products are sold, often without awareness of or compliance with the licensing requirements of the National Forests Act of 1998 or other legislation. This information will assist the Department to develop appropriate strategies to ensure the appropriate regulation of the market. It will also tie in with other studies being conducted, such as research aimed at developing sustainable harvesting practices.

Thank you for your assistance in this important study.

DIRECTOR: FORESTRY TECHNICAL AND INFORMATION SERVICES

Departement van Waterwese en Bosbou • Muhasho wa zwa Madi na Vhusimamadaka • uMnyango wezaManzi namaHlathi • Ndzawulo ya ta Mati na Swihlahla
Lefapha la Ditaba tsa Metsi le Meru • Kgoro ya Merero ya Meetse le Dithokgwa • Lefapha la Merero ya Metsi le Dikgwa • LiTiko leTemanti nemaHlatsi
ISebe lezaManzi naMahlathi • UmNyango weeNdaba zaManzi namaHlathi

Annexure C – Retailer and Suppliers Questionnaire

DWAF FIREWOOD SURVEY QUESTIONNAIRE

FOR RETAILERS

Types and volumes

1. What type of wood do you sell? (**Can be observed**)
   a. Indigenous hardwood (e.g. sickle bush, camel thorn, bushveld mix)
   b. Exotic hard or soft wood
   c. Charcoal (from which species?)
   d. Other ________

2. How many bags / kg of hardwood and / or charcoal do you buy per month?

   a. 20 bags / kg
   b. 30 bags / kg
   c. 40 bags / kg
   d. 50 bags / kg
   e. Other ________

3. How many bags / kg of hardwood and / or charcoal do you sell per month?

   a. 20 bags / kg
   b. 30 bags / kg
   c. 40 bags / kg
   d. 50 bags / kg
   e. Other ________

4. Are there differences in the quantity of hardwood and / or charcoal you sell in winter and in summer? (Yes / No)

   a. If YES, how many bags / kg of hardwood and / charcoal do you sell in winter and in summer?

   i. 20 bags / kg
   ii. 30 bags / kg
   iii. 40 bags / kg
   iv. 50 bags / kg
   v. Other ________

   NB: for 2, 3 & 4 above try to get supportive documents (e.g. invoices and / or receipts)

Purpose

5. For what end use / purpose do you sell the hardwood / softwood and / charcoal?
    a. Braai
    b. Heating
    c. Other ______

Type of business

6. Is your shop / garage / outlet part of a chain store network? (Yes / No)

If YES,

   a. Does your Head Office have a database of suppliers who supply you with wood?
   b. To what extent does your Head Office dictate the suppliers from whom you can buy your wood and charcoal?
   c. To what extent can you deviate from this supplier's list of your Head Office?

Suppliers and origin of wood

7. Where do you buy your wood / who supply you with the wood you are selling?

8. Are they local (South African) or foreign (non-South African) suppliers?

9. Do you have invoices / receipts from your suppliers that we can access? (Y/N)

    a. If YES, can we see recent copies?

10. Do you know where your suppliers get their wood?

    a. Local / SA
    b. Outside SA (specify the country of origin)
    c. If outside SA, what is the reason

11. Do you know if your suppliers have permits / licenses to supply such wood? (Y/N)

    a. If YES, elaborate.

About the National Forest Act

12. Are you aware of the legislation that protect certain protected three species and which requires licences for their cutting / harvesting, transporting and selling of their products?

    a. Are you aware of the tree species which are protected by the National Forest Act (Act 84 of 1998) (Y/N)
    b. Are you aware of certain tree species protected by this Act against unsustainable harvesting? (Y/N)
    c. Do you sell products of protected tree species, and if you do, do you have the necessary licence or copy of the licence of the supplier?
    d. Do you check what type of tree species are included in the wood or charcoal provided by your supplier, and
    e. If you sell of protected tree species, do you check whether the suppliers have permits / licences to sell the wood or charcoal they are selling before you buy from them?
    f. What do you think the government should do to ensure compliance with the Act regarding sustainable harvesting of protected species in SA?
    g. Would you be willing to participate in self-regulatory programmes to comply with the NFA with regard to sustainable harvesting of protected tree species in SA? (Y/N)
       If No, give reasons.

DWAF FIREWOOD SURVEY QUESTIONNAIRE

FOR SUPPLIERS

Type and origin of wood

1. *What type of wood species and / charcoal do you collect?*

2. *Where (country / province / place or farm) do you collect your wood?*

3. *Who cuts the wood for you?*

Licences and permits

4. *Do you have a licence to collect, transport and sell this type of wood? (If YES, can we see it?)*

5. *Do the people who cut the wood for you have a licence/permit to cut this type of wood?*
   (If YES, give reasons)

6. *Do you check if they have permits / licences before you engage them in cutting wood for you?*

Depots and retailers supplied

7. *Who do you supply your wood to?*

   a. *Retailers (specify and give their names e.g. total garages, Shoprite Checkers etc.)*
   b. *Final consumers*

8. *How many depots do you have through which you supply your wood?*

Supply figures and statistics

9. *Of all the wood species you supply, how many bags / kg of each one of the following do you supply per week?*

   a. *Leadwood / Hardekool*
   b. *Sekelbos*
   c. *Black wattle*

10. *How much is each one of them per bag / kg?* ***(Can also be observed)***

11. Are there differences in the quantity of hardwood and / or charcoal you sell in winter and in summer? (Yes / No)

    a. If YES, do you supply more or less bags / kg of hard / softwood and / charcoal in

        i. Winter?
        ii. Summer?
        iii. Throughout the season?

    b. H*ow many bags / kg of each one of the following do you supply per week?*

        i. Leadwood / Hardekool
        ii. Sekelbos
        iii. Black wattle

Annexure D – Consumer Survey / Questionnaire

[1] What is your gender? Male Female

[2] What is your age?

[3] What is your monthly income?

1 between 0-5000
2 between 5000-10000
3 between 10000-15000
4 between 15000-25000
5 between 25000-35000
6 >35000

[4] Do you use braai wood?

Yes No

[5] What type of wood do you prefer to buy?

1 Indigenous hardwood (e.g. Leadwood / Hardekool, sickle bush, camel thorn, bushveld mix)
2 Exotic hard or soft wood
3 Charcoal
4 Other

[6] Why do you prefer this type of wood?

____

____

____

[7] What do you use the wood for?

1 Braai 2 Heating 3 Other

[8] Where do you normally buy your wood?

____

____

[9] During which time of the year do you generally buy wood?

1 Summer 2 Winter 3 Throughout the year

[10] Does the price of wood fluctuate during seasons? Yes No

[11] If yes is it more expensive during: Summer Winter

[12] How many bags of wood do you buy per month?

1=one bag 6=six bags
2=two bags 7=seven bags
3=three bags 8=eight bags
4=four bags 9=more than eight bags (please specify)
5=five bags

[13] Do you know that there are certain trees, which are protected from over exploitation?

Yes No

[14] If yes can you name some of these species, which are protected?

____

____

[15] Are you aware of the act pertaining to wood harvesting in SA?

Yes No

[16] If yes can you name the act?

____

____

Annexure E – Pick & Pay Data

Sales Analysis April to Oct 2006

Gauteng North

Year	Month	Current Store name	Barcode	Brand			Sales Qty
2006	Apr-Oct	B08MIDDELBURG N/TVL	6009800000000	HI-LITE	HARD WOOD	1.00EA	8
2006	Apr-Oct	B10QUAGGA N/TVL	6009800000000	HI-LITE	HARD WOOD	1.00EA	32
2006	Apr-Oct	B12WITBANK N/TVL	6009800000000	HI-LITE	HARD WOOD	1.00EA	111
2006	Apr-Oct	B15CENTURION N/TVL	6009800000000	HI-LITE	HARD WOOD	1.00EA	245
2006	Apr-Oct	B17WATERFALLMALL N/TVL	6009800000000	HI-LITE	HARD WOOD	1.00EA	49
2006	Apr-Oct	B19GLEN VILLAGE N/TVL	6009800000000	HI-LITE	HARD WOOD	1.00EA	209
2006	Apr-Oct	B24WOODLANDS BOULEVARD N/TVL	6009800000000	HI-LITE	HARD WOOD	1.00EA	558
2006	Apr-Oct	B08MIDDELBURG N/TVL	6009800000000	HI-LITE	SOFT WOOD	1.00EA	12
2006	Apr-Oct	B10QUAGGA N/TVL	6009800000000	HI-LITE	SOFT WOOD	1.00EA	13
2006	Apr-Oct	B12WITBANK N/TVL	6009800000000	HI-LITE	SOFT WOOD	1.00EA	67
2006	Apr-Oct	B15CENTURION N/TVL	6009800000000	HI-LITE	SOFT WOOD	1.00EA	167
2006	Apr-Oct	B17WATERFALLMALL N/TVL	6009800000000	HI-LITE	SOFT WOOD	1.00EA	13
2006	Apr-Oct	B19GLEN VILLAGE N/TVL	6009800000000	HI-LITE	SOFT WOOD	1.00EA	166
2006	Apr-Oct	B22WIERDA PARK N/TVL	6009800000000	HI-LITE	SOFT WOOD	1.00EA	217
		TOTAL					**1867**

Gauteng General

Year	Month	Current Store name	Barcode	Brand			Sales Qty
2006	Feb-Oct	G34BETHLEHEM MINI MARKET	6001651005080	TOKAI	BRAAIWOOD	6.00KG	1
2006	Feb-Oct	M02BROOKLYN SQUARE FAMILY STORE	6009607880057	TECH FUEL	ECO BRAAI LOGS	6.00KG	220
2006	Feb-Oct	M02BROOKLYN SQUARE FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	16
2006	Feb-Oct	M04DORANDIA FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	16
2006	Feb-Oct	M05ROOIHUISKRAAL FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	4
2006	Feb-Oct	M07BRITS FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	1004
2006	Feb-Oct	M08WAVERLY FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	857
2006	Feb-Oct	M12MONTANA FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	411
2006	Feb-Oct	M15ELDORAIGNE FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	75
2006	Feb-Oct	M17RAYTON FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	36
2006	Feb-Oct	M19BRONKHORSTSPRUIT FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	315
2006	Feb-Oct	M22SILVERWATER CROSSING FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	126
2006	Feb-Oct	M28EQUESTRIA MALL FAMILY STORE	6009800340013	HI-LITE	HARD WOOD	1.00EA	36
2006	Feb-Oct	O01RIETFONTEIN MINI MARKET	6009800340013	HI-LITE	HARD WOOD	1.00EA	11
2006	Feb-Oct	O03MORALETTA PARK MINI MARKET	6009800340013	HI-LITE	HARD WOOD	1.00EA	5192

2006	Feb-Oct	O04CENTURION CRESCENT MINI MARKET	6009800340013	HI-LITE	HARD WOOD	1.00EA	721
2006	Feb-Oct	O07HEUWEL MINI MARKET	6009800340013	HI-LITE	HARD WOOD	1.00EA	30
2006	Feb-Oct	O09WOODHILL MINI MARKET	6009800340013	HI-LITE	HARD WOOD	1.00EA	3
2006	Feb-Oct	O10OLYMPUS PLAZA MINI MARKET	6009800340013	HI-LITE	HARD WOOD	1.00EA	1107
2006	Feb-Oct	O12WATERGLEN MINI MARKET	6009800340013	HI-LITE	HARD WOOD	1.00EA	32
2006	Feb-Oct	M15ELDORAIGNE FAMILY STORE	6009800340020	HI-LITE	SOFT WOOD	1.00EA	24
2006	Feb-Oct	M19BRONKHORSTSPRUIT FAMILY STORE	6009800340020	HI-LITE	SOFT WOOD	1.00EA	159
2006	Feb-Oct	M20WATERKLOOF RAND FAMILY STORE	6009800340020	HI-LITE	SOFT WOOD	1.00EA	3
2006	Feb-Oct	O10OLYMPUS PLAZA MINI MARKET	6009800340020	HI-LITE	SOFT WOOD	1.00EA	62
2006	Feb-Oct	O12WATERGLEN MINI MARKET	6009800340020	HI-LITE	SOFT WOOD	1.00EA	4
2006	Feb-Oct	G06WINCHESTER MINI MARKET	2519290000000	PRODUCE P'N P	VINEWOOD 10KG	1.00EA	69
2006	Feb-Oct	T02MOLOPO CROSSING FAMILY STORE	2519290000000	PRODUCE P'N P	VINEWOOD 10KG	1.00EA	413
2006	Feb-Oct	W49VRYBURG FAMILY STORE	2519290000000	PRODUCE P'N P	VINEWOOD 10KG	1.00EA	3460
		TOTAL					**14407**

Annexure F – Liquor City Gauteng Branch Network

Johannesburg		Pretoria	
Store	**Tel**	**Store**	**Tel**
Alberton - Brackengate	(011) 900-4493	**Pretoria** Cornwall View	:(012) 345-5198
Bassonia	(011) 432-0457	Montana	(012) 548-7780
Benoni Crystal Park	:(011) 969-3700	Moreleta Park	:(012) 993-0201
Ryngate	:(011) 969-1559	Silverton	:(012) 993-0201
Westwood	:(011) 894-6567	Silver lakes	(012) 809-1220
Boksburg West	:(011) 826-2336	Gateway	(012) 809-1220
Boksburg Hyperama	:(011) 917-0866	Rooihuiskraal	012) 809-1220
Atlas park	:(011) 395-1486	Pretoria North	:(012) 546-8839
Northoint	:(011) 894-1672	Waverley	012) 332-0535
Satelite	:(011) 917-0791	Wonderboom	:(012) 567-0204
Towers	:(011) 823-5221	**Centurion** Highlands	:(012) 664-3424
Brakpan VC	:(011) 744-0776	Jeanlen	012) 663-9389
Brixton	:(011) 837-7079	Rooihuiskraal	012) 656-8835
/Dainfern	:(011) 465-3795	Hazelpark	012) 809-1220
Douglasdale	:(011) 658-1706	Woodhill Park	:(012) 993-5042
Eden Meadows	:(011) 452-1993		
Fourways Gardens	:(011) 465-6910		
Germiston Elspark	011) 916-2358		
Lambton	011) 827-4566		
Kempton Park Glen Marais	:(011) 391-6005		
Glen Acres	:(011) 391-7819		
Lonehill	:(011) 467-9887		
Midridge	011) 318-0027		
Northcliff	:(011) 888-9374		
Radiokop	:(011) 675-0493		
Roodepoort	:(011) 768-6813		
Ruimsig	:(011) 958-2453		
Sophiatown	011) 673-1893		
Springs Geduld	:(011) 811-5869		
Selcourt	:(011) 818-2961		
South gate	:(011) 942-5542		

Annexure G – Consumer Survey: Diepkloof Frequency Table

Tables 1: age and gender of participants

Age	*Gender*		
	Males	*Females*	*Total*
15-19	*0*	*6(4.0)*	*6(1.5)*
20-24	*18(7.2)*	*25(16.7)*	*43(10.7)*
25-29	*95(38.0)*	*76(50.6)*	*171(42.7)*
30-34	*57(22.8)*	*30(20.0)*	*87(21.7)*
35-39	*63(25.2)*	*10(6.7)*	*73(18.3)*
40-44	*7(2.8)*	*2(1.3)*	*9(2.3)*
45-49	*3(1.2)*	*1(0.7)*	*4(1.0)*
50-54	*3(1.2)*	*0*	*3(0.8)*
55-59	*2(0.8)*	*0*	*2(0.5)*
60-64	*2(0.8)*	*0*	*2(0.5)*
Total	*250(62.5)*	*150(37.5)*	*400(100.0)*

Table 2: Income of participants

Income	***Frequency***	***Percent***
0 – 5000	*161*	*40.3*
5001- 10000	*153*	*38.2*
10001-15000	*65*	*16.2*
15001- 25000	*20*	*5.0*
25001- 35000	*1*	*0.3*
Total	*400*	*100.0*

Table 3 Number of times participants use Braai wood a year

Times per year	***Frequency***	***Percent***
Every week	*1*	*0.3*
Once a year	*10*	*2.5*
Two times a year	*77*	*19.2*
Three times a year	*117*	*29.2*
Four times a year	*126*	*31.5*
More than four times a year	*69*	*17.3*
Total	*400*	*100.0*

Table 4: Use of wood by participants

Use of wood	***Frequency***	***Percentages***
Braai	*400*	*100.0*
Total	*400*	*100.0*

Table 5: Type of wood used by participants

Type of wood	***Frequency***	***Percent***
charcoal	*400*	*100.0*
Total	*400*	*100.0*

Table 6: Reasons for choice of wood

Reasons	***Frequency***	***Percent***
Good for braai	*181*	*49.05*
Its only braai wood sold around	*75*	*20.33*
Its cheaper	*4*	*1.08*
Its quick to catch fire	*49*	*13.28*
Its traditional braai wood	*25*	*6.78*
It last longer	*30*	*8.13*
Good for Braai, smokeless, reusable and cheap	*3*	*0.81*
User- friendly	*1*	*0.27*
Hardwood makes strong fire and good coal	*1*	*0.3*
Other	*31*	*7.75*
Total	*400*	*100*

Table 7: Place where participants buy wood

Place	*Frequency*	*Percent*
Filling stations only	*335*	*83.7*
Filling stations and vendors	*54*	*13.5*
Filling stations and supermarkets	*11*	*2.8*
Total	*400*	*100.0*

Table 8: Time of the year participants buy wood

Time of the year	*Frequency*	*Percent*
Summer	*26*	*6.5*
Winter	*1*	*0.3*
Throughout the year	*373*	*93.2*
Total	*400*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	*Frequency*	*Percent*
Yes	*9*	*2.3*
No	*391*	*97.7*
Total	*400*	*100.0*

Table 10: Time when wood is expensive

Time	*Frequency*	*Percent*
Winter	*7*	*1.8*
Not applicable	*391*	*97.7*
Don't know	*2*	*0.5*
Total	*400*	*100*

Table 11: Number of bags participants buys per month

Number of bags	Frequency	Percent
One bag	52	13.0
Two bags	252	63.0
Three bags	61	15.2
Four bags	32	8.0
Five bags	2	0.5
More than eight bags	1	0.3
Total	400	100.0

Table 12: Do you know protected trees?

Response	Frequency	Percent
Yes	296	74.0
No	104	26.0
Total	400	100.0

Table 13: Protected trees named by participants

Trees	Frequency	Percent
Cycads	8	2.01
Don’t know names	234	58.79
Cycads and baobab	4	1.01
Baobab	33	8.29
Trees in natural parks	4	1.01
Scarce indigenous trees	11	2.76
Not applicable	103	25.88
Don’t know	1	0.25
Total	398	100.00

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	***Frequency***	***Percent***
Yes	*22*	*5.5*
No	*378*	*94.5*
Total	*400*	*100.0*

Table 15: Name of the Act

Response	***Frequency***	***Percent***
Forest management Act	*18*	*4.5*
Not applicable	*378*	*94.5*
Don't know	*4*	*1.0*
Total	*400*	*100.0*

Annexure H – Consumer survey: Yeoville Frequency Table

Tables 1: age and gender of participants

Age	***Gender***		
	Males	***Females***	***Total***
15-19	*1(0.3)*	*0*	*1(0.2)*
20-24	*14(4.7)*	*16(15.8)*	*30(7.5)*
25-29	*122(40.8)*	*68(67.3)*	*190(47.5)*
30-34	*125(41.9)*	*15(14.9)*	*140(35.0)*
35-39	*29(9.7)*	*2(2.0)*	*31(7.8)*
40-44	*7(2.3)*	*0*	*7(1.7)*
45-49	*1(0.3)*	*0*	*1(0.3)*
Total	*299(100)*	*101(100)*	*400(100)*

Table 2: Income of participants

Income	***Frequency***	***Percent***
0 – 5000	*131*	*32.8*
5001- 10000	*186*	*46.4*
10001-15000	*79*	*19.8*
15001- 25000	*4*	*1.0*
Total	*400*	*100.0*

Table 3 Number of times participants use Braai wood a year

Times per year	***Frequency***	***Percent***
Every week	*1*	*0.2*
Once a year	*4*	*1.0*
Two times a year	*71*	*17.8*
Three times a year	*216*	*54.0*
Four times a year	*98*	*24.5*
More than four times a year	*10*	*2.5*
Total	*400*	*100.0*

Table 4: Use of wood by participants

Use of wood	***Frequency***	***Percentages***
Braai	*399*	*99.7*
Braai and heating	*1*	*0.3*
Total	*400*	*100.0*

Table 5: Type of wood used by participants

Type of wood	***Frequency***	***Percent***
Hardwood and charcoal	*1*	*0.3*
Charcoal	*399*	*99.7*
Total	*400*	*100.0*

Table 6: Reasons for choice of wood

Reasons	***Frequency***	***Percent***
Good for braai	*205*	*51.25*
Good for braai, quick to catch fire and its available	*2*	*0.5*
Its cheaper	*57*	*14.25*
Its always available	*49*	*12.25*
Its quick to catch fire	*60*	*15.0*
It last longer	*13*	*3.25*
Good for Braai, smokeless, reusable and cheap	*1*	*0.25*
User- friendly	*3*	*0.75*
Hardwood makes strong fire and good coal	*5*	*1.25*
Other	*5*	*1.25*
Total	*400*	*100.0*

Table 7: Place where participants buy wood

Place	*Frequency*	*Percent*
Filling stations only	*1*	*0.25*
Filling stations and supermarkets	*1*	*0.25*
Liquor stores and filling stations	*1*	*0.25*
Supermarkets only	*348*	*87.0*
Other	*47*	*11.75*
Missing	*1*	*0.25*
Not applicable	*1*	*0.25*
Total	*400*	*100.0*

Table 8: Time of the year participants buy wood

Time of the year	*Frequency*	*Percent*
Summer	*20*	*5.0*
Throughout the year	*379*	*94.75*
Missing	*1*	*0.25*
Total	*400*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	*Frequency*	*Percent*
No	*399*	*99.7*
Missing	*1*	*0.3*
Total	*400*	*100.0*

Table 10: Time when wood is expensive

Time	*Frequency*	*Percent*
Not applicable	*399*	*99.7*
Missing	*1*	*0.3*
Total	*400*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	*Frequency*	*Percent*
One bag	*9*	*2.25*
Two bags	*155*	*38.75*
Three bags	*182*	*45.5*
Four bags	*49*	*12.25*
Five bags	*3*	*0.75*
Eight bags	*2*	*0.5*
Total	*400*	*100.0*

Table 12: Do you know protected trees?

Response	*Frequency*	*Percent*
Yes	*399*	*99.7*
No	*1*	*0.3*
Total	*400*	*100.0*

Table 13: Protected trees named by participants

Trees	*Frequency*	*Percent*
Don't know names	*398*	*99.4*
Baobab	*1*	*0.3*
Don't know	*1*	*0.3*
Total	*400*	*100.0*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	*Frequency*	*Percent*
No	*400*	*100.0*
Total	*400*	*100.0*

Table 15: Name of the Act

Response	*Frequency*	*Percent*
Not applicable	*400*	*100.0*
Total	*400*	*100.0*

Annexure I – Consumer survey: Rosebank Frequency Table

Tables 1: age and gender of participants

Age	*Gender*		
	Males	*Females*	*Total*
15-19	*1(0.37)*	*0.0*	*1(0.25)*
20-24	*5(1.83)*	*1(0.79)*	*6(1.5)*
25-29	*105(38.46)*	*98(77.17)*	*203(50.75)*
30-34	*139(50.92)*	*25(19.69)*	*164(41.0)*
35-39	*23(8.42)*	*3(2.36)*	*26(6.5)*
Total	*273(100)*	*127(100)*	*400(100.0)*

Table 2: Income of participants

Income	*Frequency*	*Percent*
0 – 5000	*29*	*7.3*
5001- 10000	*225*	*56.2*
10001-15000	*139*	*34.7*
15001- 25000	*7*	*1.8*
Total	*400*	*100.0*

Table 3 Number of times participants use Braai wood a year

Times per year	*Frequency*	*Percent*
Once a year	*1*	*0.3*
Two times a year	*54*	*13.5*
Three times a year	*231*	*57.7*
Four times a year	*102*	*25.5*
More than four times a year	*12*	*3.0*
Total	*400*	*100.0*

Table 4: Use of wood by participants

Use of wood	*Frequency*	*Percentages*
Braai	*399*	*99.8*
Braai and heating	*1*	*0.2*
Total	*400*	*100.0*

Table 5: Type of wood used by participants

Type of wood	***Frequency***	***Percent***
Hardwood and charcoal	*5*	*1.3*
Charcoal	*393*	*98.2*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*2*	*0.5*
Total	*400*	*100.0*

Table 6: Reasons for choice of wood

Reasons	***Frequency***	***Percent***
Good for braai	*205*	*51.25*
Its cheaper	*61*	*15.25*
Its quick to catch fire	*36*	*9.0*
Its traditional braai wood	*66*	*16.5*
It last longer	*11*	*2.75*
User- friendly	*1*	*0.25*
Hardwood makes strong fire and good coal	*15*	*3.75*
Other	*5*	*1.25*
Total	*400*	*100.0*

Table 7: Place where participants buy wood

Place	***Frequency***	***Percent***
Filling stations only	*25*	*6.25*
Vendors	*1*	*0.25*
Filling stations and vendors	*1*	*0.25*
Filling stations and supermarkets	*176*	*44.0*
Supermarkets only	*195*	*48.75*
Other	*1*	*0.25*
Missing	*1*	*0.25*
Total	*400*	*100.0*

Table 8: Time of the year participants buy wood

Time of the year	***Frequency***	***Percent***
Summer	*11*	*2.8*
Throughout the year	*389*	*97.2*
Total	*400*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	***Frequency***	***Percent***
No	*400*	*100.0*
Total	*400*	*100.0*

Table 10: Time when wood is expensive

Time	***Frequency***	***Percent***
Not applicable	*400*	*100.0*
Total	*400*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	*Frequency*	*Percent*
Two bags	*93*	*23.3*
Three bags	*212*	*53.0*
Four bags	*95*	*23.7*
Total	*400*	*100.0*

Table 12: Do you know protected trees?

Response	*Frequency*	*Percent*
Yes	*400*	*100.0*
Total	*400*	*100.0*

Table 13: Protected trees named by participants

Trees	*Frequency*	*Percent*
Cycads	*4*	*1.0*
Don't know names	*374*	*93.5*
Cycads and baobab	*1*	*0.25*
Baobab	*14*	*3.5*
Aloe	*3*	*0.75*
Other	*4*	*1.0*
Total	*400*	*100.0*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	*Frequency*	*Percent*
No	*400*	*100.0*
Total	*400*	*100.0*

Table 15: Name of the Act

Response	***Frequency***	***Percent***
Not applicable	*400*	*100.0*
Total	*400*	*100.0*

Annexure J – Consumer survey: Westdene Frequency Table

Tables 1: age and gender of participants

Age	***Gender***		
	Males	***Females***	***Total***
20-24	*4(1.89)*	*13(6.91)*	*17(4.25)*
25-29	*100(47.17)*	*143(76.06)*	*243(60.75)*
30-34	*96(45.28..)*	*32(17.02)*	*128(32.0)*
35-39	*12(5.66)*	*0.0*	*12(3.0)*
Total	*212(100)*	*188(100)*	*400(100)*

Table 2: Income of participants

Income	***Frequency***	***Percent***
0 – 5000	*32*	*8.0*
5001- 10000	*261*	*65.2*
10001-15000	*104*	*26.0*
15001- 25000	*3*	*0.8*
Total	*400*	*100.0*

Table 3 Number of times participants use Braai wood a year

Times per year	***Frequency***	***Percent***
Once a year	*1*	*0.3*
Two times a year	*14*	*3.4*
Three times a year	*150*	*37.5*
Four times a year	*143*	*35.8*
More than four times a year	*92*	*23.0*
Total	*400*	*100.0*

Table 4: Use of wood by participants

Use of wood	***Frequency***	***Percentages***
Braai	*392*	*98.0*
Braai and heating	*8*	*2.0*
Total	*400*	*100.0*

Table 5: Type of wood used by participants

Type of wood	Frequency	Percent
Hardwood and charcoal	81	20.3
Exotic hard and soft wood	6	1.5
Charcoal	208	52.0
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	105	26.2
Total	400	100.0

Table 6: Reasons for choice of wood

Reasons	Frequency	Percent
Good for braai	153	38.25
Its only braai wood sold around	1	0.25
Its cheaper	7	1.75
Its quick to catch fire	19	4.75
Its traditional braai wood	63	15.75
It last longer	17	4.25
Hardwood makes strong fire and good coal	123	30.75
Hardwood is multiple purpose wood	10	2.5
Other	7	1.75
Total	400	100.0

Table 7: Place where participants buy wood

Place	Frequency	Percent
Filling stations only	224	56.0
Filling stations and vendors	26	6.5
Filling stations and supermarkets	129	32.25

Liquor stores and filling stations	*1*	*0.25*
Supermarkets only	*15*	*3.75*
Other	*5*	*1.25*
Total	*400*	*100.0*

Table 8: Time of the year participants buy wood

Time of the year	***Frequency***	***Percent***
Winter	*1*	*0.2*
Throughout the year	*399*	*99.8*
Total	*400*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	***Frequency***	***Percent***
No	*400*	*100.0*
Total	*400*	*100.0*

Table 10: Time when wood is expensive

Time	***Frequency***	***Percent***
Not applicable	*399*	*99.7*
Don't know	*1*	*0.3*
Total	*400*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	***Frequency***	***Percent***
Two bags	*77*	*19.25*
Three bags	*157*	*39.25*

Four bags	*165*	*41.25*
Five bags	*1*	*0.25*
Total	*400*	*100.0*

Table 12: Do you know protected trees?

Response	***Frequency***	***Percent***
Yes	*400*	*100.0*
Total	*400*	*100.0*

Table 13: Protected trees named by participants

Trees	***Frequency***	***Percent***
Cycads	*19*	*4.75*
Don't know names	*311*	*77.75*
Cycads and baobab	*4*	*1.0*
Jacaranda	*2*	*0.5*
Baobab	*34*	*8.5*
Trees in natural parks	*1*	*0.25*
Kiaat	*5*	*1.25*
Baobab and jacaranda	*1*	*0.25*
Aloe	*10*	*2.5*
Aloe and Kiaat	*3*	*0.75*
Aloe and baobab	*1*	*0.25*
Kiaat and cycads	*2*	*0.5*
Aloe and cycads	*3*	*0.75*
Other	*4*	*1.0*
Total	*400*	*100.0*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	***Frequency***	***Percent***
No	*400*	*100.0*
Total	*400*	*100.0*

Table 15: Name of the Act

Response	***Frequency***	***Percent***
Not applicable	*400*	*100.0*
Total	*400*	*100.0*

Annexure K – Consumer survey: Hillbrow Frequency Table

Tables 1: age and gender of participants

Age	*Gender*			
	Males	***Females***	***Missing***	***Total***
15-19	*1(0.35)*	*1(0.97)*	*8(100.0)*	*10(2.51)*
20-24	*45(15.63*	*46(44.66)*	*0*	*91(22.81)*
25-29	*84(29.17)*	*43(41.75)*	*0*	*127(31.83)*
30-34	*76(26.39)*	*12(11.65)*	*0*	*88(22.06)*
35-39	*65(22.57)*	*1(0.97)*	*0*	*66(16.54)*
40-44	*12(4.17)*	*0*	*0*	*12(3.01)*
45-49	*3(1.04)*	*0*	*0*	*3(0.75)*
50-54	*2(0.69)*	*0*	*0*	*2(0.5)*
Total	*288*	*103*	*8*	*399(100.0)*

Table 2: Income of participants

Income	***Frequency***	***Percent***
0 – 5000	*223*	*55.75*
5001- 10000	*161*	*40.25*
10001-15000	*8*	*2.0*
Missing	*8*	*2.0*
Total	*400*	*100.0*

Table 3 Number of times participants use Braai wood a year

Times per year	***Frequency***	***Percent***
Don’t braai	*400*	*100.0*
Total	*400*	*100.0*

Table 4: Use of wood by participants

Use of wood	***Frequency***	***Percentages***
Don’t know	*3*	*0.8*
Not applicable	*397*	*99.2*
Total	*400*	*100.0*

Table 5: Type of wood used by participants

Type of wood	*Frequency*	*Percent*
Not applicable	*397*	*99.2*
Don't know	*3*	*0.8*
Total	*400*	*100.0*

Table 6: Reasons for choice of wood

Reasons	*Frequency*	*Percent*
Not applicable	*397*	*99.2*
Don't know	*3*	*0.8*
Total	*400*	*100.0*

Table 7: Place where participants buy wood

Place	*Frequency*	*Percent*
Not applicable	*397*	*99.2*
Don't know	*3*	*0.8*
Total	*400*	*100.0*

Table 8: Time of the year participants buy wood

Time of the year	*Frequency*	*Percent*
Not applicable	*397*	*99.2*
Don't know	*3*	*0.8*
Total	*400*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	*Frequency*	*Percent*
Not applicable	*397*	*99.2*
Don't know	*3*	*0.8*
Total	*400*	*100.0*

Table 10: Time when wood is expensive

Time	*Frequency*	*Percent*
Not applicable	*397*	*99.2*
Don't know	*3*	*0.8*
Total	*400*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	*Frequency*	*Percent*
Not applicable	*397*	*99.2*
Don't know	*3*	*0.8*
Total	*400*	*100.0*

Table 12: Do you know protected trees?

Response	*Frequency*	*Percent*
Yes	*394*	*98.5*
No	*5*	*1.3*
Missing	*1*	*0.2*
Total	*400*	*100*

Table 13: Protected trees named by participants

Trees	*Frequency*	*Percent*
Cycads	*2*	*0.5*
Don't know names	*366*	*91.5*
Cycads and baobab	*1*	*0.25*
Baobab	*15*	*3.75*
Trees in natural parks	*4*	*1.0*
Scarce indigenous trees	*4*	*1.0*
Other	*3*	*0.75*
Not applicable	*5*	*1.25*
Total	*400*	*100.0*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	*Frequency*	*Percent*
Yes	*2*	*0.5*
No	*398*	*99.5*
Total	*400*	*100.0*

Table 15: Name of the Act

Response	*Frequency*	*Percent*
Not applicable	*397*	*99.2*
Don't know	*3*	*0.8*
Total	*400*	*100.0*

Annexure L – Consumer survey: Sunnyside Frequency Table

Tables 1: age and gender of participants

Age	*Gender*		
	Males	***Females***	***Total***
20-24	*13(5.33)*	*29(18.59)*	*42(10.5)*
25-29	*89(36.48)*	*92(58..97)*	*181(45.25)*
30-34	*112(45.90)*	*29(18.59)*	*141(35.25)*
35-39	*27(11.07)*	*5(3.21)*	*32(8.0)*
40-44	*3(1.23)*	*0*	*3(0.75)*
45-49	*0*	*1(0.64)*	*1(0.25)*
Total	*244(100)*	*156(100)*	*400(100)*

Table 2: Income of participants

Income	***Frequency***	***Percent***
0 – 5000	*96*	*24.0*
5001- 10000	*193*	*48.25*
10001-15000	*101*	*25.25*
15001- 25000	*10*	*2.50*
Total	*400*	*100.0*

Table 3 Number of times participants use Braai wood a year

Times per year	***Frequency***	***Percent***
Once a year	*4*	*1.0*
Two times a year	*31*	*7.75*
Three times a year	*151*	*37.75*
Four times a year	*142*	*35.5*
More than four times a year	*72*	*18.0*
Total	*400*	*100.0*

Table 4: Use of wood by participants

Use of wood	***Frequency***	***Percentages***
Braai	*388*	*97.0*
Braai and heating	*12*	*3.0*
Total	*400*	*100.0*

Table 5: Type of wood used by participants

Type of wood	***Frequency***	***Percent***
Hardwood and charcoal	*133*	*33.25*
Exotic hard and soft wood	*14*	*3.5*
Charcoal	*180*	*45.0*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*73*	*18.25*
Total	*400*	*100.0*

Table 6: Reasons for choice of wood

Reasons	***Frequency***	***Percent***
Good for braai	*138*	*34.5*
Its cheaper	*7*	*1.75*
Its quick to catch fire	*29*	*7.25*
Its traditional braai wood	*75*	*18.75*
It last longer	*12*	*3.0*
Good for Braai, smokeless, reusable and cheap	*3*	*0.75*
Good for braai, quick to catch fire and its available	*1*	*0.25*
Hardwood makes strong fire and good coal	*105*	*26.25*
Hardwood is multiple purpose wood	*7*	*1.75*
Other	*23*	*5.75*
Total	*400*	*100.0*

Table 7: Place where participants buy wood

Place	***Frequency***	***Percent***
Filling stations only	*4*	*1.0*
Vendors	*2*	*0.5*
Filling stations and vendors	*111*	*27.75*
Filling stations and supermarkets	*213*	*53.25*
Liquor stores and filling stations	*56*	*14.0*
Supermarkets only	*11*	*2.75*
Other	*2*	*0.5*
Missing	*1*	*0.25*
Total	*400*	*100.0*

Table 8: Time of the year participants buy wood

Time of the year	***Frequency***	***Percent***
Summer	*10*	*2.5*
Winter	*1*	*0.25*
Throughout the year	*389*	*97.25*
Total	*400*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	***Frequency***	***Percent***
Yes	*166*	*41.5*
No	*234*	*58.5*
Total	*400*	*100.0*

Table 10: Time when wood is expensive

Time	*Frequency*	*Percent*
Summer	*3*	*0.75*
Winter	*161*	*40.25*
Not applicable	*236*	*59.0*
Total	*400*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	*Frequency*	*Percent*
Two bags	*176*	*44.0*
Three bags	*149*	*37.2*
Four bags	*68*	*17.0*
Five bags	*6*	*1.5*
Six bags	*1*	*0.3*
Total	*400*	*100.0*

Table 12: Do you know about protected trees?

Response	*Frequency*	*Percent*
Yes	*400*	*100.0*
Total	*400*	*100.0*

Table 13: Protected trees named by participants

Trees	*Frequency*	*Percent*
Cycads	*4*	*1.01*
Don't know names	*355*	*89.20*
Cycads and baobab	*6*	*1.51*
Baobab	*15*	*3.77*
Trees in natural parks	*2*	*0.5*
Scarce indigenous trees	*3*	*0.75*
Baobab and jacaranda	*5*	*1.26*
Kiaat	*1*	*0.25*
Aloe	*1*	*0.25*
Kiaat and cycads	*1*	*0.25*
Jacaranda and Kiaat	*2*	*0.5*
Other	*3*	*0.75*
Total	*400*	*100.0*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	*Frequency*	*Percent*
Yes	*1*	*0.3*
No	*399*	*99.7*
Total	*400*	*100.0*

Table 15: Name of the Act

Response	*Frequency*	*Percent*
Forest management Act	*1*	*0.3*
Not applicable	*399*	*99.7*
Total	*400*	*100.0*

Annexure M – Consumer survey: Atteridgeville Frequency Table

Tables 1: age and gender of participants

Age	***Gender***		
	Males	***Females***	***Total***
20-24	*0*	*1(0.71)*	*1(0.25)*
25-29	*77(29.73)*	*61(43.26)*	*138(34.5)*
30-34	*139(53.67)*	*55(39.01)*	*194(48.5)*
35-39	*42(16.22)*	*22(15.6)*	*64(16.0)*
40-44	*1(0.39)*	*1(0.71)*	*2(0.5)*
45-49	*0(0.0)*	*1(0.71)*	*1(0.25)*
Total	*259 (65.0)*	*141(35.0)*	*400(100.0)*

Table 2: Income of participants

Income	***Frequency***	***Percent***
0 – 5000	*100*	*25.0*
5001- 10000	*211*	*52.75*
10001-15000	*82*	*20.5*
15001- 25000	*7*	*1.75*
Total	*400*	*100*

Table 3 Number of times participants use Braai wood per month

Times per year	***Frequency***	***Percent***
Once a month	*10*	*2.5*
Two times a month	*210*	*52.5*
Three times a month	*101*	*25.25*
Four times a month	*12*	*3.0*
More than four times a month	*67*	*16.75*
Total	*400*	*100.0*

Table 4: Use of wood by participants

Use of wood	***Frequency***	***Percentages***
Braai	*400*	*100.0*
Total	*400*	*100.0*

Table 5: Type of wood used by participants

Type of wood	***Frequency***	***Percent***
Hardwood and charcoal	*1*	*0.3*
Charcoal	*399*	*99.7*
Total	*400*	*100.0*

Table 6: Reasons for choice of wood

Reasons	***Frequency***	***Percent***
Good for braai	*164*	*41.0*
Its only braai wood sold around	*170*	*42.5*
Its cheaper	*3*	*0.75*
Its always available	*7*	*1.75*
Its quick to catch fire	*11*	*2.75*
Its traditional braai wood	*2*	*0.5*
It last longer	*10*	*2.5*
Good for Braai, smokeless, reusable and cheap	*23*	*5.75*
Good for braai, quick to catch fire and its available	*9*	*2.25*
User- friendly	*1*	*0.25*
Total	*400*	*100.0*

Table 7: Place where participants buy wood

Place	***Frequency***	***Percent***
Filling stations only	*127*	*31.75*
Vendors	*8*	*2.0*
Filling stations and vendors	*263*	*65.75*
Filling stations and supermarkets	*1*	*0.25*
Other	*1*	*0.25*

Total	*400*	*100.0*

Table 8: Time of the year participants buy wood

Time of the year	***Frequency***	***Percent***
Summer	*128*	*32.0*
Winter	*10*	*2.5*
Throughout the year	*262*	*65.5*
Total	*400*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	***Frequency***	***Percent***
Yes	*3*	*0.8*
No	*394*	*98.5*
Not sure	*2*	*0.5*
Don't know	*1*	*0.2*
Total	*400*	*100.0*

Table 10: Time when wood is expensive

Time	***Frequency***	***Percent***
Summer	*1*	*0.3*
Winter	*5*	*1.3*
Not applicable	*391*	*97.7*
Missing	*3*	*0.7*
Total	*400*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	***Frequency***	***Percent***
One bag	*64*	*16.0*
Two bags	*325*	*81.2*
Three bags	*10*	*2.5*
Five bags	*1*	*0.3*
Total	*400*	*100*

Table 12: Do you know protected trees?

Response	***Frequency***	***Percent***
Yes	*334*	*83.5*
No	*66*	*16.5*
Total	*400*	*100.0*

Table 13: Protected trees named by participants

Trees	***Frequency***	***Percent***
Cycads	*14*	*3.5*
Don't know names	*255*	*63.75*
Cycads and baobab	*3*	*0.75*
Baobab	*21*	*5.25*
Trees in natural parks	*1*	*0.25*
Scarce indigenous trees	*5*	*1.25*
Baobab and jacaranda	*3*	*0.75*
Cycads and jacaranda	*2*	*0.5*
Jacaranda	*2*	*0.5*
None	*26*	*6.5*

Not applicable	*66*	*16.5*
Missing	*2*	*0.5*
Total	*400*	*100*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	***Frequency***	***Percent***
Yes	*3*	*0.8*
No	*397*	*99.2*
Total	*400*	*100.0*

Table 15: Name of the Act

Response	***Frequency***	***Percent***
Forest management Act	*1*	*0.25*
Not applicable	*390*	*97.5*
Not sure	*2*	*0.5*
Don’t know	*3*	*0.75*
Missing	*4*	*1.0*
Total	*400*	*100.0*

Annexure N – Consumer survey: Silverton Frequency Table

Tables 1: age and gender of participants

Age	*Gender*		
	Males	*Females*	*Total*
15-19	*2(0.81)*	*1(0.67)*	*3(0.76)*
20-24	*5(2.03)*	*3(2.00)*	*8(2.02)*
25-29	*62(25.20)*	*48(32.00)*	*110(27.78)*
30-34	*89(36.18)*	*57(38.00)*	*146(36.87)*
35-39	*55(22.36)*	*26(17.33)*	*81(20.45)*
40-44	*18(7.32)*	*10(6.67)*	*28(7.07)*
45-49	*5(2.03)*	*1(0.67)*	*6(1.52)*
50-54	*4(1.63)*	*4(2.67)*	*8(2.02)*
55-59	*3(1.22)*	*0(0)*	*3(0.76)*
60-64	*3(1.22)*	*0(0)*	*3(0.76)*
65-69	*246(62.0)*	*150(38.0)*	*396(100.0)*

Table 2: Income of participants

Income	*Frequency*	*Percent*
0 – 5000	*121*	*30.56*
5001- 10000	*149*	*37.63*
10001-15000	*96*	*24.24*
15001- 25000	*4*	*1.01*
25001- 35000	*0*	*0.0*
35000 or more	*1*	*0.25*
Not applicable	*1*	*0.25*
Missing	*24*	*6.6*
Total	*396*	*100.0*

Table 3 Number of times participants use Braai wood per month

Times per year	*Frequency*	*Percent*
Every week	*4*	*1.01*
Once a month	*60*	*15.15*
Two times a month	*80*	*20.20*
Three times a month	*113*	*28.54*
Four times a month	*66*	*16.67*
More than four times a month	*70*	*17.68*
Don’t braai	*2*	*0.51*
Missing	*1*	*0.25*

Total	*396*	*100*

<u>Table 4: Use of wood by participants</u>

Use of wood	***Frequency***	***Percentages***
Braai	*373*	*94.4*
Braai and heating	*20*	*5.1*
Heating	*2*	*0.5*
Total	*395*	*100*

<u>Table 5: Type of wood used by participants</u>

Type of wood	***Frequency***	***Percent***
Hardwood and charcoal	*97*	*24.49*
Exotic hard and soft wood	*4*	*1.01*
Charcoal	*239*	*60.35*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*53*	*13.38*
Other	*3*	*0.76*
Total	*396*	*100*

Table 6: Reasons for choice of wood

Reasons	***Frequency***	***Percent***
Good for braai	*102*	*25.76*
Its only braai wood sold around	*2*	*0.51*
Its cheaper	*8*	*2.02*
Its always available	*4*	*1.01*
Its quick to catch fire	*76*	*19.19*
Its traditional braai wood	*33*	*8.33*
It last longer	*86*	*21.72*
Good for Braai, smokeless, reusable and cheap	*14*	*3.54*
User- friendly	*24*	*6.06*
Hardwood makes strong fire and good coal	*11*	*2.78*
Hardwood is multiple purpose wood	*2*	*0.51*
Other	*33*	*8.33*
Don't know	*1*	*.0.25*
Total	*396*	*100*

Table 7: Places where participants buy wood

Place	***Frequency***	***Percent***
Filling stations only	*110*	*27.78*
Vendors	*21*	*5.30*
Filling stations and vendors	*49*	*12.37*
Filling stations and supermarkets	*142*	*35.86*
Liquor stores and filling stations	*3*	*0.76*
Supermarkets only	*48*	*12.12*
Collect it	*2*	*0.51*
Other	*21*	*5.30*
Total	*396*	*100.0*

Table 8: Time of the year when participants buy wood

Time of the year	*Frequency*	*Percent*
Summer	*128*	*32.3*
Winter	*27*	*6.8*
Throughout the year	*237*	*59.8*
Other	*2*	*0.5*
Not applicable	*1*	*0.3*
Missing	*1*	*0.3*
Total	*396*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	*Frequency*	*Percent*
Yes	*198*	*50.0*
No	*167*	*42.17*
Not sure	*4*	*1.00*
Not applicable	*3*	*0.76*
Don't know	*22*	*5.56*
Missing	*2*	*0.51*
Total	*396*	*100.0*

Table 10: Time when wood is expensive

Time	*Frequency*	*Percent*
Summer	*17*	*4.3*
Winter	*185*	*46.7*
Not applicable	*189*	*47.7*
Don't know	*3*	*0.8*
Missing	*2*	*0.5*
Total	*396*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	*Frequency*	*Percent*
One bag	*24*	*6.06*
Two bags	*182*	*45.96*
Three bags	*78*	*19.70*
Four bags	*91*	*22.98*
Five bags	*8*	*2.02*
Six bags	*1*	*0.25*
Seven bags	*1*	*0.25*
Eight bags	*2*	*0.51*
More than eight bags	*1*	*0.25*
Enough to cook or braai	*8*	*2.02*
Total	*396*	*100.0*

Table 12: Do you know protected trees?

Response	*Frequency*	*Percent*
Yes	*379*	*95.7*
No	*17*	*4.3*
Total	*396*	*100.0*

Table 13: Protected trees named by participants

Trees	*Frequency*	*Percent*
Cycads	*11*	*2.78*
Don't know names	*333*	*84.09*
Cycads and baobab	*4*	*1.01*
Baobab	*19*	*4.80*
Trees in natural parks	*1*	*0.25*
Scarce indigenous trees	*4*	*1.01*
Baobab and jacaranda	*1*	*0.25*
Gum trees	*1*	*0.25*
Other	*4*	*1.01*
Not applicable	*17*	*4.29*
Don't know	*1*	*0.25*
Total	*396*	*100.0*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	*Frequency*	*Percent*
Yes	*30*	*7.58*
No	*365*	*92.17*
Don't know	*1*	*0.25*
Total	*396*	*100.0*

Table 15: Name of the Act

Response	*Frequency*	*Percent*
Forest management Act	*5*	*1.26*
Not applicable	*365*	*92.17*
Don't know	*26*	*6.57*
Total	*396*	*100.0*

Annexure O – Consumer survey: Montana Park Frequency Table

Tables 1: age and gender of participants

Age	***Gender***		
	Males	***Females***	***Total***
15-19	*0*	*0)*	*0*
20-24	*0*	*1(0.71)*	*1(0.25)*
25-29	*77(29.73)*	*61(43.26)*	*138(34.41)*
30-34	*139(53.67)*	*55(39.01)*	*194(48.50)*
35-39	*42(16.22)*	*22(15.60)*	*64(16.00)*
40-44	*1(0.39)*	*1(0.71)*	*2(0.5)*
45-49	*0*	*1(0.71)*	*1(0.25)*
Total	*259(100)*	*141(100)*	*400(100)*

Table 2: Income of participants

Income	***Frequency***	***Percent***
0 – 5000	*42*	*10.5*
5001- 10000	*210*	*52.5*
10001-15000	*132*	*33.0*
15001- 25000	*16*	*4.0*
Total	*400*	*100*

Table 3 Number of times participants use Braai wood a year

Times per year	***Frequency***	***Percent***
Once a year	*4*	*1.0*
Two times a year	*32*	*8.0*
Three times a year	*151*	*37.75*
Four times a year	*143*	*35.75*
More than four times a year	*69*	*17.25*
Missing	*1*	*0.25*
Total	*400*	*100*

Table 4: Use of wood by participants

Use of wood	***Frequency***	***Percentages***
Braai	*386*	*96.5*
Braai and heating	*14*	*3.5*
Total	*400*	*100*

Table 5: Type of wood used by participants

Type of wood	***Frequency***	***Percent***
Hardwood and charcoal	*125*	*31.25*
Exotic hard and soft wood	*12*	*3.0*
Charcoal	*196*	*49.0*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*67*	*16.75*
Total	*400*	*100.0*

Table 6: Reasons for choice of wood

Reasons	***Frequency***	***Percent***
Good for braai	*168*	*42.0*
Its cheaper	*9*	*2.25*
Its quick to catch fire	*37*	*9.25*
Its traditional braai wood	*46*	*11.5*
It last longer	*6*	*1.5*
Hardwood makes strong fire and good coal	*116*	*29.0*
Hardwood is multiple purpose wood	*6*	*1.5*
Other	*12*	*3.0*
Total	*400*	*100*

Table 7: Place where participants buy wood

Place	***Frequency***	***Percent***
Filling stations only	*1*	*0.25*
Filling stations and vendors	*114*	*28.57*
Filling stations and supermarkets	*273*	*68.42*
Liquor stores and filling stations	*6*	*1.5*
Supermarkets only	*1*	*0.25*
Other	*4*	*1.0*
Total	*399*	*100.0*

Table 8: Time of the year participants buy wood

Time of the year	*Frequency*	*Percent*
Summer	*5*	*1.2*
Throughout the year	*395*	*98.8*
Total	*400*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	*Frequency*	*Percent*
Yes	*2*	*0.5*
No	*398*	*99.5*
Total	*400*	*100.0*

Table 10: Time when wood is expensive

Time	*Frequency*	*Percent*
Winter	*2*	*0.5*
Not applicable	*398*	*99.5*
Total	*400*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	*Frequency*	*Percent*
Two bags	*160*	*40.0*
Three bags	*152*	*38.0*
Four bags	*83*	*20.75*
Five bags	*4*	*1.0*
Six bags	*1*	*0.25*
Total	*400*	*100*

Table 12: Do you know protected trees?

Response	*Frequency*	*Percent*
Yes	*399*	*99.8*
No	*1*	*0.2*
Total	*400*	*100.0*

Table 13: Protected trees named by participants

Trees	***Frequency***	***Percent***
Cycads	*4*	*1.0*
Don't know names	*386*	*96.5*
Cycads and baobab	*1*	*0.25*
Baobab	*9*	*2.25*
Total	*400*	*100.0*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	***Frequency***	***Percent***
Yes	*3*	*0.8*
No	*397*	*99.2*
Total	*400*	*100.0*

Table 15: Name of the Act

Response	***Frequency***	***Percent***
Forest management Act	*1*	*0.3*
Not applicable	*397*	*99.2*
Don't know	*2*	*0.5*
Total	*400*	*100*

Annexure P – Consumer survey: Lynwood Frequency Table

Tables 1: age and gender of participants

Age	*Gender*		
	Males	***Females***	***Total***
20-24	*9(4.27)*	*28(14.81)*	*37(9.25)*
25-29	*102(48.34)*	*129(68.25)*	*231(57.75)*
30-34	*84(39.81)*	*32(16.93)*	*116(29.0)*
35-39	*16(7.58)*	*0*	*16(4.0)*
Total	*211(100)*	*189(100)*	*400(100)*

Table 2: Income of participants

Income	***Frequency***	***Percent***
0 – 5000	*49*	*12.25*
5001- 10000	*244*	*61.0*
10001-15000	*103*	*25.75*
15001- 25000	*4*	*1.0*
Total	*400*	*100.0*

Table 3 Number of times participants use Braai wood a year

Times per year	***Frequency***	***Percent***
Two times a year	*16*	*4.0*
Three times a year	*145*	*36.3*
Four times a year	*145*	*36.3*
More than four times a year	*94*	*23.4*
Total	*400*	*100.0*

Table 4: Use of wood by participants

Use of wood	***Frequency***	***Percentages***
Braai	*391*	*97.75*
Braai and heating	*9*	*2.25*
Total	*400*	*100.0*

Table 5: Type of wood used by participants

Type of wood	***Frequency***	***Percent***
Hardwood and charcoal	*89*	*22.25*
Exotic hard and soft wood	*3*	*0.75*
Charcoal	*203*	*50.75*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*105*	*26.25*
Total	*400*	*100.0*

Table 6: Reasons for choice of wood

Reasons	***Frequency***	***Percent***
Good for braai	*149*	*37.25*
Its cheaper	*6*	*1.5*
Its always available	*1*	*0.25*
Its quick to catch fire	*12*	*3.0*
Its traditional braai wood	*79*	*19.75*
It last longer	*12*	*3.0*
Hardwood makes strong fire and good coal	*123*	*30.75*
Hardwood is multiple purpose wood	*4*	*1.0*
Other	*14*	*3.5*
Total	*400*	*100.0*

Table 7: Place where participants buy wood

Place	***Frequency***	***Percent***
Filling stations only	*176*	*44.0*
Vendors	*4*	*1.0*
Filling stations and vendors	*77*	*19.2*
Filling stations and supermarkets	*139*	*34.7*
Supermarkets only	*3*	*0.8*
Other	*1*	*0.3*
Total	*400*	*100.0*

Table 8: Time of the year participants buy wood

Time of the year	*Frequency*	*Percent*
Summer	*1*	*0.3*
Throughout the year	*398*	*99.4*
Other	*1*	*0.3*
Total	*400*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	*Frequency*	*Percent*
Yes	*2*	*0.5*
No	*398*	*99.5*
Total	*400*	*100.0*

Table 10: Time when wood is expensive

Time	*Frequency*	*Percent*
Summer	*1*	*0.3*
Not applicable	*398*	*99.4*
Don't know	*1*	*0.3*
Total	*400*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	*Frequency*	*Percent*
Two bags	*92*	*23.0*
Three bags	*147*	*36.75*
Four bags	*159*	*39.75*
Five bags	*2*	*0.5*
Total	*400*	*100.0*

Table 12: Do you know protected trees?

Response	***Frequency***	***Percent***
Yes	*399*	*99.7*
No	*1*	*0.3*
Total	*400*	*100.0*

Table 13: Protected trees named by participants

Trees	***Frequency***	***Percent***
Cycads	*15*	*3.75*
Don’t know names	*328*	*82.0*
Cycads and baobab	*3*	*0.75*
Baobab	*23*	*5.75*
Trees in natural parks	*1*	*0.25*
Scarce indigenous trees	*1*	*0.25*
Baobab and jacaranda	*3*	*0.75*
Cycads and jacaranda	*1*	*0.25*
Kiaat	*6*	*1.5*
Jacaranda	*1*	*0.25*
Aloe	*7*	*1.75*
Kiaat and cycads	*1*	*0.25*
Aloe and Kiaat	*5*	*1.25*
Aloe and baobab	*1*	*0.25*
Aloe and cycads	*2*	*0.5*
Cycads, aloe and jacaranda	*1*	*0.25*
Jacaranda and Kiaat	*1*	*0.25*
Total	*400*	*100.0*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	***Frequency***	***Percent***
Yes	*2*	*0.5*
No	*398*	*99.5*
Total	*400*	*100.0*

Table 15: Name of the Act

Response	***Frequency***	***Percent***
Not applicable	*398*	*99.5*
Don't know	*2*	*0.5*
Total	*400*	*100.0*

Annexure Q – Consumer survey: Littleton Manor Frequency Table

Tables 1: age and gender of participants

Age	*Gender*		
	Males	*Females*	*Total*
20-24	*9(4.19)*	*32(17.30)*	*41(10.25)*
25-29	*104(48.37)*	*121(65.40)*	*225(56.25)*
30-34	*87(40.47)*	*31(16.76)*	*118(29.5)*
35-39	*15(6.98)*	*1(0.54)*	*16(4.0)*
Total	*215(100)*	*185(100)*	*400(100)*

Table 2: Income of participants

Income	*Frequency*	*Percent*
0 – 5000	*54*	*13.5*
5001- 10000	*248*	*62.0*
10001-15000	*94*	*23.5*
15001- 25000	*4*	*1.0*
Total	*400*	*100.0*

Table 3 Number of times participants use Braai wood a year

Times per year	*Frequency*	*Percent*
Once a year	*1*	*0.25*
Two times a year	*15*	*3.75*
Three times a year	*145*	*36.25*
Four times a year	*143*	*35.75*
More than four times a year	*96*	*24.0*
Total	*400*	*100.0*

Table 4: Use of wood by participants

Use of wood	*Frequency*	*Percentages*
Braai	*394*	*98.5*
Braai and heating	*6*	*1.5*
Total	*400*	*100.0*

Table 5: Type of wood used by participants

Type of wood	***Frequency***	***Percent***
Hardwood and charcoal	*69*	*17.25*
Exotic hard and soft wood	*2*	*0.5*
Charcoal	*216*	*54.0*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*113*	*28.25*
Total	*400*	*100.0*

Table 6: Reasons for choice of wood

Reasons	***Frequency***	***Percent***
Good for braai	*138*	*34.5*
Its cheaper	*9*	*2.25*
Its always available	*1*	*0.25*
Its quick to catch fire	*14*	*3.5*
Its traditional braai wood	*50*	*12.5*
It last longer	*6*	*1.5*
Good for Braai, smokeless, reusable and cheap	*10*	*2.5*
User- friendly	*2*	*0.5*
Hardwood makes strong fire and good coal	*138*	*34.5*
Hardwood is multiple purpose wood	*29*	*7.25*
Good for braai, quick to catch fire and its available	*3*	*0.75*
Total	*400*	*100.0*

Table 7: Place where participants buy wood

Place	***Frequency***	***Percent***
Filling stations only	*124*	*31.0*
Vendors	*1*	*0.25*
Filling stations and supermarkets	*272*	*68.0*
Liquor stores and filling stations	*3*	*0.75*
Total	*400*	*100.0*

Table 8: Time of the year participants buy wood

Time of the year	***Frequency***	***Percent***
Summer	*1*	*0.3*
Throughout the year	*397*	*99.2*
Other	*2*	*0.5*
Total	*400*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	***Frequency***	***Percent***
Yes	*2*	*0.5*
No	*397*	*99.2*
In the city	*1*	*0.3*
Total	*400*	*100.0*

Table 10: Time when wood is expensive

Time	***Frequency***	***Percent***
Not applicable	*399*	*99.7*
Missing	*1*	*0.3*
Total	*400*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	***Frequency***	***Percent***
Two bags	*96*	*24.0*
Three bags	*148*	*37.0*
Four bags	*154*	*38.5*
Five bags	*2*	*0.5*
Total	*400*	*100.0*

Table 12: Do you know protected trees?

Response	***Frequency***	***Percent***
Yes	*399*	*99.7*
No	*1*	*0.3*
Total	*400*	*100.0*

Table 13: Protected trees named by participants

Trees	***Frequency***	***Percent***
Cycads	*16*	*4.0*
Don't know names	*316*	*79.0*
Cycads and baobab	*4*	*1.0*
Baobab	*27*	*6.75*
Trees in natural parks	*2*	*0.5*
Scarce indigenous trees	*1*	*0.25*
Baobab and jacaranda	*4*	*1.0*
Aloe	*6*	*1.5*
Kiaat	*5*	*1.25*
Aloe and Kiaat	*7*	*1.75*
Aloe and baobab	*1*	*0.25*
Kiaat and cycads	*1*	*0.25*
Aloe and cycads	*4*	*1.0*

Jacaranda, cycads and aloe	*1*	*0.25*
Jacaranda and Kiaat	*1*	*0.25*
Cycads and jacaranda	*1*	*0.25*
Jacaranda	*2*	*0.5*
None	*1*	*0.25*
Total	*400*	*100.0*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	***Frequency***	***Percent***
No	*400*	*100.0*
Total	*400*	*100.0*

Table 15: Name of the Act

Response	***Frequency***	***Percent***
Forest management Act	*1*	*0.25*
Not Sure	*1*	*0.25*
Not applicable	*397*	*99.2*
Missing	*1*	*0.3*
Total	*400*	*100.0*

Annexure R – Consumer survey: SUMMARY All Areas Frequency Table

Table 1: Age and gender of all the participants

Age	*Gender*		
	MALE (%)	*FEMALE (%)*	*TOTAL*
15-19	*5(0.19)*	*8 (0.47)*	*13 (0.30)*
20-24	*132 (4.89)*	*205(12.16)*	*337(7.68)*
25-29	*1014 (37.53)*	*960 (56.94)*	*1974(44.99)*
30-34	*1085 (40.16)*	*388 (23.01)*	*1473 (33.57)*
35-39	*381 (14.10)*	*100 (5.93)*	*481 (10.96)*
40-44	*52 (1.92)*	*16 (0.95)*	*68 (1.55)*
45-49	*14 (0.52)*	*5 (0.30)*	*19 (0.43)*
50-54	*9 (0.33)*	*4 (0.24)*	*13 (0.30)*
55-59	*5 (0.19)*	*0 (0)*	*5 (0.11)*
60-64	*5 (0.19)*	*0 (0)*	*5 (0.11)*
TOTAL	*2702 (61.57)*	*1686 (38.48)*	*4388 (100)*

Table 2: Income of all participants

Income	*Frequency*	*Percent*
0 – 5000	*1038*	*23.8*
5001- 10000	*2241*	*51.4*
10001-15000	*1003*	*23.0*
15001- 25000	*79*	*1.8*
25001- 35000	*1*	*0*
35000 or more	*1*	*0*
Not applicable	*1*	*0*
Total	*4364*	*100*

Table 3 Number of times participants use Braai wood per year

Times per year	*Frequency*	*Percent*
Every week	*6*	*0.14*
Once a year	*95*	*2.16*
Two times a year	*600*	*13.65*
Three times a year	*1520*	*34.58*
Four times a year	*1120*	*25.48*
More than four times a year	*651*	*14.81*
Don't braai	*402*	*9.14*
Missing	*2*	*0.05*
Total	*4396*	*100.0*

Table 4: Use of wood by participants

Use of wood	*Frequency*	*Percentages*
Braai	*3922*	*89.22*
Braai and heating	*71*	*1.62*
Heating	*2*	*0.05*
Not applicable	*397*	*9.03*
Don't know	*3*	*0.07*
Missing	*1*	*0.02*
Total	*4396*	*100.0*

Table 5: Type of wood used by participants

Type of wood	*Frequency*	*Percent*
Hardwood and charcoal	*601*	*15.03*
Exotic hard and soft wood	*41*	*1.03*
Charcoal	*2833*	*70.84*
Hardwood (Sickle bush, Leadwood, camel thorn, bushveld mix	*518*	*12.95*
Other	*3*	*0.08*
Don't know	*3*	*0.08*
Total	*4396*	*100.0*

Table 6: Reasons for choice of wood

Reasons	*Frequency*	*Percent*
Good for braai	*1603*	*36.46*
Its only braai wood sold around	*248*	*5.64*
Its cheaper	*171*	*3.89*
Its always available	*13*	*0.30*
Its quick to catch fire	*343*	*7.80*
Its traditional braai wood	*488*	*11.10*
It last longer	*203*	*4.62*

Good for braai, quick to catch fire and its available	*15*	*0.34*
Good for Braai, smokeless, reusable and cheap	*54*	*1.23*
User- friendly	*35*	*0.80*
Hardwood makes strong fire and good coal	*637*	*14.49*
Hardwood is multiple purpose wood	*58*	*1.32*
Other	*127*	*2.89*
Not applicable	*397*	*9.03*
Don't know	*4*	*0.09*
Total	*4396*	*100.0*

Table 7: Places where participants buy wood

Place	***Frequency***	***Percent***
Filling stations only	*1127*	*25.64*
Vendors	*37*	*0.84*
Filling stations and vendors	*695*	*15.81*
Filling stations and supermarkets	*1357*	*30.87*
Liquor stores and filling stations	*70*	*1.59*
Supermarkets only	*621*	*14.13*
Collect it	*2*	*0.05*
Other	*82*	*1.87*
Not applicable	*398*	*9.05*
Don't know	*3*	*0.07*
Missing	*4*	*0.09*
Total	*4396*	*100.0*

Table 8: Time of the year when participants buy wood

Time of the year	***Frequency***	***Percent***
Summer	*330*	*7.51*
Winter	*40*	*0.91*
Throughout the year	*3618*	*82.36*
Other	*5*	*0.11*

Not applicable	*398*	*9.06*
Missing	*2*	*0.05*
Total	*4396*	*100.0*

Table 9: Does the price of wood fluctuate?

Response	***Frequency***	***Percent***
Yes	*382*	*8.7*
No	*3578*	*81.4*
In the city	*1*	*0*
Not sure	*6*	*0.1*
Not applicable	*400*	*9.1*
Don't know	*26*	*0.6*
Missing	*3*	*0.1*
Total	*4396*	*100.0*

Table 10: Time when wood is expensive

Time	***Frequency***	***Percent***
Summer	*22*	*0.5*
Winter	*360*	*8.2*
Not applicable	*3997*	*90.9*
Don't know	*10*	*0.2*
Missing	*7*	*0.2*
Total	*4396*	*100.0*

Table 11: Number of bags participants buys per month

Number of bags	***Frequency***	***Percent***
One bag	*149*	*3.4*
Two bags	*1608*	*36.6*
Three bags	*1296*	*29.5*
Four bags	*896*	*20.4*
Five bags	*26*	*0.6*

Six bags	*6*	*0.1*
Seven bags	*1*	*0*
Eight bags	*4*	*0.1*
More than eight bags	*2*	*0*
Enough to cook or braai	*8*	*0.2*
Not applicable	*397*	*9.0*
Don't know	*3*	*0.1*
Total	*4396*	*100.0*

Table 12: Do you know protected trees?

Response	***Frequency***	***Percent***
Yes	*4199*	*95.52*
No	*195*	*4.44*
Not sure	*1*	*0.02*
Missing	*1*	*0.02*
Total	*4396*	*100.0*

Table 13: Protected trees named by participants

Trees	***Frequency***	***Percent***
Cycads	*97*	*2.2*
None	*27*	*0.6*
Don't know names	*3656*	*83.2*
Cycads and baobab	*31*	*0.7*
Jacaranda	*9*	*0.2*
Baobab	*211*	*4.8*
Cycads and jacaranda	*4*	*0.1*
Trees in natural parks	*16*	*0.4*
Scarce indigenous trees	*29*	*0.7*
Baobab and jacaranda	*17*	*0.4*
Kiaat	*17*	*0.4*
Aloe	*27*	*0.6*

Aloe and Kiaat	*15*	*0.3*
Aloe and baobab	*3*	*0.1*
Gum trees	*1*	*0*
Kiaat and cycads	*5*	*0.1*
Aloe and cycads	*9*	*0.2*
Jacaranda, cycads and aloe	*2*	*0*
Jacaranda and Kiaat	*4*	*0.1*
Other	*20*	*0.5*
Not applicable	*191*	*4.3*
Don't know	*3*	*0.1*
Missing	*2*	*0*
Total	*4396*	*100.0*

Table 14: Awareness of Act pertaining to wood harvesting in S.A

Response	***Frequency***	***Percent***
Yes	*63*	*1.43*
No	*4332*	*98.54*
Don't know	*1*	*0.02*
Total	*4396*	*100.0*

Table 15: Name of the Act

Response	***Frequency***	***Percent***
Forest management Act	*27*	*0.6*
Not sure	*3*	*0.1*
Not applicable	*4321*	*98.3*
Don't know	*40*	*0.9*
Missing	*5*	*0.1*
Total	*4396*	*100.0*

Areas of study

Area	***Number of participants***
Hillbrow	*399*
Rosebank	*400*
Soweto-Diepkloof	*400*
Westdene	*400*
Yeoville	*400*
Attridgeville	*400*
Littleton	*400*
Lynwood	*400*
Silverton	*396*
Sunnyside	*400*
Montana Park	*400*
Missing	*1*
Total	*4396*

Annexure S: Results of interviews with Retailers within target areas - Johannesburg

1. HILLBROW

(a) Brenthurst BP Express Garage, Cnr Claim and Yetta Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	20	2 month	30	Monthly
Charcoal	20	2 month	30	Monthly
Briquette	20	2 month	30	Monthly
Notes	Not selling well before Christmas, sells better during festive season. Hillbrow people not buying a lot cause they live in flats where they cannot braai meat the traditional way. People from outside are the one who often buy the wood when buying petrol. However, winter is the best time because some people buy in bulk for heating purposes and we often sell more than 60 bags of softwood in a week or two.			

Supplier: Distributors of Shonna and Hi-Lite products

(b) Hillbrow Spar, Cnr Carolina and Claim Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	40	Monthly	40	Weekly
Charcoal	40	Monthly	40	Weekly
Briquette	40	Monthly	40	Weekly
Notes	In winter they sell more of softwood and the Namibian charcoal because it is made out of hardwood and therefore last longer like the hardwood.			

Supplier: Orders are made through the Head Office only and there is no flexibility to buy from any other supplier not listed with the Head Office.

(c) Shoprite, Cnr Pretoria and Banquette Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	60	Monthly	60	Monthly
Briquette	60	Monthly	60	Monthly
notes	Business slow because people want hard and softwood for heating purposes which we do not normally sell. Management has no knowledge of protected species and the National Forest Act protecting them.			

Supplier: Orders are made through the Head Office only and there is no flexibility to buy from any other supplier not listed with the Head Office.

(d) Engen Garage, Cnr Van der Merwe and Twist Street – Owner Manager, Mhlongo Chris

Normal / before festive & Christmas season			During festive & Christmas season	
Items ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	20	2 month	This is the stock from November and it is not selling. The 2 or 3 bags sold to date were bought by people from outside Hillbrow. The community around the garage is made up of migrant population. They are often squatting and on the move. Also they live in flats where they cannot possible make a braai. Majority of them are Nigerians, Zairians and Congolese who are not a meat braaing people. They prefer fast food and as a result, often go to the butcheries, buy and spent little time braaing it on the gas stove outside the butcheries and go. As a result he ended up giving away the other bags to people who are selling them along the streets in the townships. Manager has good knowledge of the protected species although he could not quote exactly the National Forest Act.	
Briquette	20	2 month		

Supplier: Slam Paper

(e) Buy Rite Sweet and Vege, Kotze Street, Hillbrow Central

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	13	Nov/Dec	Sold out by 2/1/07	2 Months
Charcoal	13	Nov/Dec	5 sold by 2/1/07	2 Months
Notes	Not selling. People here prefer and use a lot of planks and they steal pallets from the shops for heating. Management has no idea about protected species and the Act protecting them.			

Supplier: The R5 Wholesale in Hillbrow High Point

(f) R5 Wholesale, High Point (Underground shop), Kotze Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	100	Nov/Dec	78 were sold by 2/1/07	
Charcoal: Family Favorite Shonna charcoal Shonna Houtskool	 200 100 100	Nov/Dec	 140 were sold by 2/1/07 71 were sold by 2/1/07 56 were sold by 2/1/07	
Briquette	100	Nov/Dec	60 were sold by 2/1/07	
Notes	Softwood and the Shonna houtskool sell much also in winter for heating purposes. Management has no knowledge of protected species.			

Supplier: Shonna Distributors
Family Favorite products – SA Products, Booysen

(g) Shell Garage, Cnr Edith Carvel and Kotze Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	10	Nov /Dec	All sold out by 1/1/07	
Briquette	10	Nov/Dec		
Notes	No great difference between the sales in summer and winter but obviously the winter sales are often slightly higher than in summer. Management has no knowledge of protected species and the National Forest Act.			

Supplier: Hi-lite distributors

(h) BP Garage, Cnr Kotze and Klein

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	12	Nov /Dec	Firewood business is slow in the area. Overall, charcoal sells better than briquette. Only people from outside Hillbrow who come with vehicles to buy once in a while. People here live in flats and use electricity. They also do not have places to make braai. There is very little difference in Winter. The only difference is that people form outside who are working in town end up coming here to buy in bulk if they do not get wood from the other shops such as Pick n Pay, Shoprite and Spar.	
Briquette	12	Nov/Dec		

Supplier: Palm Tree Distributors CC (Namibian), Tell: 002711 900 4320, Fax: 002711 868 4146, Email: charcoal@tropicanaexport.co.za. They are supporters of the SA Wildlife Trust and endorsed by the Game Rangers Association of Africa. These products are made out of the Namibian Hardwood.

(i) Jamaican Supermarket, Kotze Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	20	Annually	Since Jan 06, only 6 were sold. It sells better in Winter for heating purposes	
Charcoal	20	Annually	Since Jan 06, 12 have been sold	
Briquette	20	Annually	Since Jan 06, only 14 have been sold	

Supplier: I collect from our Warehouse in Boksburg.

(j) Fruit and Vege Market, inspected and has neither wood nor charcoal
(k) Mega Hypermarket, No wood or charcoal
(l) Hillbrow Supermarket, No wood or charcoal
(m) Hypermarket Butchery, No wood or charcoal
(n) SA Supermarket, No wood or charcoal

2. YEOVILLE

(a) Food for Africa Supermarket, Raleigh Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	20 / 50	20 (month), 50 (2-3 months)	100	6-7 months from Dec
Briquette	20 / 50	20 (month), 50 (2-3 months)	100	6-7 months from Dec
Notes	In winter, high volumes of hard and black wattle is in demand by the people from the neighbouring residential houses. Management has no knowledge of the protected species and the NFA.			

Supplier: Distributors from Fordsburg

(b) Hypermarket, Raleigh Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	60	Monthly	100	Weekly
Briquette	30	Monthly	60	Weekly
Notes	Sell high volumes of blackwattel in winter and has no knowledge of protected species.			

Supplier: Distributors from Fordsburg, Tell: 011 487 3829

(c) Super Saver Supermarket, Raleigh Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	30	Monthly	60	Monthly
Notes	In winter they sell most of softwood for heating purposes which is selling better than in summer, hence we do not even bother ordering it now because people want charcoal for braai.			

Supplier: Distributors from Fordsburg, Tell: 011 487 3829

NB: These two shops above at B and C are owned by one person.

(d) Golden Meat N Meat. Raleigh Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	200	3 weeks	200	2 weeks
Briquette	20	4 weeks	30	3 weeks

Supplier: Known only to the owner

(e) Yeoville Hypermarket, Raleigh Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	5-10	Weekly	10-20	Weekly
Notes	This is the practice and trend throughout the year which increases during festive season and in winter.			

Supplier: Star Pack Distributors, Pretoria and Midrand

(f) Shoprite, Raleigh Street

Sells briquettes and charcoal supplied by E & C Charcoal (Pty) Ltd, Pietermaritzburg, Box 1735, Tell: 033 342 4317/1338/1339.

Braaikettes – Best Braai Briquettes, Proudly SA. A percentage of each product sold is donated to the WWF South Africa's Conservation Work.

Blitz triquettes – convenient, easily stackable, burns longer and it is environmentally friendly

Supplier: Braai and BBQ International (Pty) Ltd, Box 17224, Randhart, 1457, SA, Tell: 086 0102018, Fax: 0118645119

Charka Braai-Braai Brikette, SABS approved

Softwood is supplied by the Fruit and Vege Market

Orders are made directly to the suppliers who must be registered with the Head Office who ensures that a company is legitimate and has a business or trade license

NB: The Head Office provides individual shop with no flexibility to buy from any other supplier other than the ones registered in its database.

A print-out of their selling record provided by Manager, Mr. Robert Normans, Tell: 011 274 6700

3. ROSEBANK

(a) Engen Garage, Oxford Convenient Centre, Oxford Road

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal (made from hardwood)	10-15	week	25-35	Week
Softwood	Charcoal sells much on festive season for braai purposes, while softwood sells much on winter season for heating purposes.			

Supplier: Buy direct from suppliers

A print-out of the sales records has been provided by the garage Manager.

(b) Shell Garage, Cnr Barker and Bath

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	60	2 months	100	2 months
Charcoal (Etosha)	50	2 months	100	2 months
Briquette	50	2 months	100	2 months
notes	Softwood also sells much better in winter than charcoal. Last year (2006) more than 350 bags of softwood (black wattle) were sold in winter.			

Supplier: Buy direct from suppliers

(c) Pick n Pay, Rosebank Mall

Despite the fact that the Manager, Mr. Eric, has after reading the letter from the Department instructed one of the senior employees, Mr. Solly, to provide us with the information required; Solly refused on the ground that a permission from their General Manger at the Head Office in East Gate was required before any information from the system is divulged to any outsider. It was established that the Manger is new in the shop hence he was may be so casual with the information required.

(d) Caltex Garage, Jan Smuts Avenue – Manager, Shabir

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	5-10	Week	0-1	Month
Charcoal (Etosha)	20-30	Week	0-5	Month
Briquette	6-8	Week	0-2	Month
Notes	The festive season, especially Christmas and New Year is so quiet because the area is surrounded by corporate offices whose employees often go on holidays during this time. Business is going well during the course of the year since these people buy charcoal every Friday and Weekend for braai. The same applies to petrol. Again, the garage is next to Pick n Pay whose prices are lower than the garage's. For instance, 5kg of softwood at the garage is R29 while at Pick n Pay is R16. However, in winter the sale of softwood was hiking up to more than 70 bags a month.			

Supplier: Orders are made through Head Office. Three things guide their choice of suppliers: the bags must be well packed, be of the same and equal weight with equal quantity and must have a bar code.

4. WESTDENE

(a) BP Garage, Cnr Perth and Portland Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood (Sekkelbos)	10	Monthly	10	Month
Charcoal	15	Monthly	15	Month
Briquette	15	Monthly	15	Month
note	Hardwood sells batter in winter than in summer. Management has general knowledge about the protected species.			

Supplier: Direct from suppliers, which include Hi-Lite, Shonna and Braai and BBQ International

(b) Engen Garage, Perth Street, Opposite Hellen Joseph Hospital

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood (Sekkelbos)	40	2-3 weeks	60	1-2 weeks
Soft wood	40	2-3 weeks	60	1-2 weeks
Charcoal (Extra braai sta/braai sta)	40	2-3 weeks	60-80	1-2 weeks
Briquette (Charka)	40	2-3 weeks	60-80	1-2 weeks
Notes	In winter people buy a lot of hard and softwood that charcoal and briquettes. Between June and July 2006, 290 bags of hard and 270 of softwood were sold. Management has a general knowledge of the protected species.			

Supplier: Stream Ice, Fordsburg, Contact: Zeeber at 082 285 9413

(c) Caltex Garage, Thornton road

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Neither hard/softwood nor charcoal was on sale during the visit.				

(d) Student Take Away shop, Thornton road

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood (Sekelbos)	50	Monthly	70	Month
Charcoal	70	Monthly	100	Month
Briquette	70	Monthly	100	Month
Notes	Hardwood sells better in winter than in summer. 315 bags of hardwood were sold in June 2006.			

(e) Quick Spar, Thornton road

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	30	Monthly	10	Monthly
Charcoal (Charka)	5	Monthly	15	Monthly
Briquette	5	Monthly	15	Monthly
Notes	Charka and briquette are divided into two – the leading brand and the Spar-branded product but in association with the leading brand. This is a policy issue and part of the promotion strategy. Soft wood is in high demand in the area. Of the 30 bags ordered in mid-December, 16 were sold out and only 14 were left. In summer the shop sells 150 bags per month. In winter more than 200 bags of softwood is sold. Management has no knowledge of the protected species and the NFA.			

Supplier: Head Office. All supplies are recommended by the Head Office in Boksburg.

(f) Engen Garage, Cnr Edward and Gold road

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	10	Monthly	10	Monthly
Charcoal	10	Monthly	10	Monthly
Briquette	10	Monthly	10	Monthly

Notes	In winter softwood sell better than charcoal and briquette. More than 100 bags of softwood are sold in winter.

Supplier: All orders are made through Head Office

5. SOWETO - DIEPKLOOF

(a) Engen Garage, Osizweni, Zone 6

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	10	Month	20	Month
Charcoal	20	Month	40	Month
Briquette	20	Month	40	Month
Notes	In winter they sell four times the above figures for summer. Management has general knowledge about the protected species.			

Supplier: Through the Head Office in town

(b) BP Express, Zone 6 (near Baragwanath Hospital)

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	10-15	Month	50	Month
Charcoal	50	Month	300	Month
Notes	Charcoal in this garage is selling better that hardwood. Of the December stock, 15 bags of hardwood were sold by 1/1/07 while all the 300 bags of charcoal were sold out. Hardwood sells better in winter during which time more than 150 bags are sold in 6 weeks. Management has little knowledge about protected species.			

(c) Engen Garage, Zone 6 (near Baragwanath Hospital)

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Neither hard / softwood nor charcoal was on sale during the visit.				

(d) Score Supermarket, Zone 6 (near Baragwanath Hospital)

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
No hard/soft wood nor charcoal / briquettes was on sale during the visit				

(e) BP Garage, Old Potchefstroom road (near Baragwanath Hospital)

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	30	Month	50	Month
Charcoal	50	Month	100	Month
Briquette	30	Month	50	Month
Notes	Of the December stock, 15 bags of charcoal, 18 bags of soft wood were sold by 1/1/07 while all the 50 bags of briquette were sold out. In winter there is a high demand for hard and softwood the orders of which are often quadrupled. Management has no idea of protected species.			

Supplier: Distributors who supply Hi-Lite products

(f) Engen Garage, Cnr Ben Naude and Munnik

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Neither hard/soft wood nor charcoal / briquettes were on sale during the visit.				

(g) Market place for vendors along Munnik Street opposite the garage was also investigated and had neither charcoal nor wood

(h) Market place for vendors along Alf Khumalo Street was also investigated and found with neither charcoal nor wood

(i) BP Express Garage, Soweto Highway Motors, Cnr Munnik and Soweto Highway

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	100	Month	200	Month
Briquette	200	Month	400	Month
Notes	The Briquettes are a product of Namibian hardwood packaged by the Big Five in partnership with BP Express. They are branded with a BP Express ™. Contact Andries (082 906 0451) Piere (083 513 8669). Also supply them with hardwood. In winter sales go up three times the summer sales. Management has no idea about the protected species.			

(j) Engen Garage, 1076 Martinus Street, Diepkloof Zakes Retail Centre

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	30	Month	100	Month
Charcoal	40	Month	150	Month
Briquette	40	Month	150	Month
Notes	The November sales of each of the products above tripled in December whereby what was sold in a month is now sold in a week.			

Supplier: Head Office. All the orders are supplied by the Head Office and with the exception of cigarettes and condoms; there is no flexibility for the shop to buy from any other supplier no registered wit the Head Office.

Annexure T: Results of interviews with Retailers within target areas - Pretoria-Tshwane

1. SILVERTON

(a) Silverpark Motors CC t/a Silverton Motors, 22 Waltloo Road

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood (from linderlinger plant)	60	Month	80	Month
Charcoal (hi-lite)	80	Month	100	Month
Briquette (hi-lite)	80	Month	100	Month
Note	In winter the demand is very high and the stock doubles up in quantity. The owner has general knowledge about some of the rare tree species that are protected by the law from harvesting and over-utilisation			

Supplier: Hi-Lite Charcoal (Namibian Hardwood Products), Contact person: Amanda at 012 998 4333
Blitz Charcoal, E&C Charcoal (Pty) Ltd, Pietermaritzburg, Tel: 033 342 1317 / 1338/1339
Charka – Braaimaster, Piet Retief

(b) Pick n Pay, Silverwaters, Silverton

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood (labelled bushveld wood)	30	Week (120/m)	Despite the management's ill-cooperation, they however confirmed during the meeting that their records of stock and sales in winter are actually double their figures for summer. Thus, 240 (hardwood, charcoal and briquettes)	
Charcoal (hi-lite)	30	Week (120/m)		
Briquette (hi-lite)	30	Week (120/m)		
Notes	The management, led by Piere van Niekerk, was not cooperative and therefore could not provide information regarding their normal records			

	of stock ordered except to say they were selling the above figures a week. They could also not provide their stats for the festive season except that they were obviously higher than normal. They have knowledge of neither the protected species nor the National Forest Act.

Supplier: They order through the Head Office and have no room to buy from any other supplier not registered with their HO. Their charcoal was dominated by Hi-lite products, Charka provided by Bakgart Braai, contact person, Jacko at 083 779 1040; and the bushveld hardwood which had no address of the supplier

(c) Liquor City, Silverwaters, Silverton

The management was also not cooperative and appeared to have been wrongly informed about our presence on the complex by the Pick n Pay people and decided to disappear through the back door. Reading from their shelf revealed they do sell charcoal and briquette but no hardwood. There were 8 bags of Hi-Lite charcoal during our visit.

(d) Country Fresh Fruit and Vege, Silverton

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	120	Month	240	Month
Charcoal (hi-lite)	30	2 weeks	80	Month
Briquette (hi-lite)	30	2 weeks	80	Month
Note	In winter, they sell triple the number of bags they sell in summer per months (Hardwood, 360, charcoal, 180 and briquette, 180). Management has no knowledge of any Act protecting protected species			

Supplier: Redwood – Michael (Brits)
Hardekool by Savanna - Louw at 082 677 0794

(e) Engen Garage, Pretoria Motors, Pretoria Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood (Camelthorn)	20	Month	30	Month
Charcoal	30	Month	50	Month

(Bagart Braai™, Namibian hardwood)				
Briquette (Bakgart Braai™, Namibian hardwood)	30	Month	50	Month
Notes	In winter the sales triple up particularly for hard and softwood and the Namibian charcoal because it is made out of hardwood. The Management has a fair general knowledge of some of the species that are protected by the Act, although they could not specify neither the Act nor the names of the species that are protected by the Act			

Supplier: Bakgart Braai™

(f) Supersport Liquor, Silverton Village, 31 Pretoria Road

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	30	Month	30	Month
Charcoal (hi-lite)	30	Month	30	Month
Briquette (hi-lite)	20	Month	20	Month
Notes	In winter they sell double the stock they sell in summer. Management has a general knowledge of certain species protected by the Act.			

Supplier: Hi-Lite, Tell: 012 998 4333

(g) Village Café and Take Away, Silverton Village, 31 Pretoria Road

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	10	Month	10	Month
Charcoal (hi-lite)	10	Month	10	Month
Notes	No difference in their sales between summer and winter; and Management had no knowledge of any species protected by the Act			

Supplier: Hi-Lite, Tell: 012 998 4333

(h) Carlos Liquor Store, Pretoria Road

Print-out of sales records provided by the Manager. Supplier: A Fire Master

(i) Nicton Silverton CC, t/a Silverton Spar, Cnr Pretoria and Fakkel Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	50	Month	50	Weekly
Charcoal (hi-lite)	30	Month	30	Weekly
Briquette -Hi-lite (blackwattel) -Charka -Spar	 50 50 20	Month	 50 50 20	Weekly
Notes	In winter they sell four times the stock they sell in summer. Management has a general knowledge of the tree species protected by the Act, although they did not know the Act itself.			

(j) Shell Garage, Cnr Pretoria and Fakkel

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	15	Month	20	Month
Charcoal	10	Month	15	Month
Notes	No difference on their sale between summer and winter. Management had no knowledge of any species protected by the Act, let alone the Act itself.			

Supplier: Savannah

(k) Hot Spattan, Pretoria Road

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	20	Month	25	Month
Briquette	20	Month	25	Month
Notes	Very little difference between summer and winter with extra 10 bags			

	being sold in addition to the summer sales. No idea about protected species and the Act therefore.

Supplier: United Charcoal Producer, Tell: 011 964 1567

(l) Seven Eleven Shop, Pretoria Road

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	10		20	2 weeks
Charcoal (family favourite)	10	Month	20	2 weeks
Briquette	10	Month	20	2 weeks
Notes	Sells triple the summer stock in winter. Management has no idea about protected species and the Act.			

(m) Shoprite, Silverton Metropolitan Mall

Print-out of the sales records provided by the Manager, Mr. Dions Grobler

(n) Uitkyk Food Market and Bakery

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	50 (Jun 06 stock)	7 months	16 were sold by 3/1/07	
Charcoal	10 (Sept 06 stock)	4 months	4 were sold by 3/1/07	
Briquette	10 (Sept 06 stock)	4 months	3 were sold by 3/1/07	
Notes	In winter they sell more firewood than in summer. No knowledge of protected species.			

Supplier: Hi-Lite by Fountain Kriges, Contact: Jan @ 082 490 0589

(o) Uitkyk Supermarket and Hardware & Firewood Stall, Uitkyk Mall, Silverton

	Hardware Firewood Stall	Supermarket	
Stock ordered in mid-Dec 06			
	No. of bags		
Hardekool	**941**		
Sekkelbos	**815**		
Mopani	**238**		
Black wattle (softwood)	**350**		
Rooikool	**533**		
Hi-lite charcoal	**390**		
Shonna briquette	**390**		
Super braai charcoal	**390**		
Daily Sales Records			
27/12/06	**No. of bags sold**		
Super braai charcoal	**12**	**36**	
Shonna charcoal	**2**	**15**	
Mopani	**1**	**3**	
Sekelbos	**2**	**6**	
28/12/06			
Hardekool	**4**	**12**	
Sekelbos	**4**	**15**	
Mopani	**3**	**12**	
Black wattle (softwood)	**2**	**9**	
Shonnah briquette	**3**	**15**	
29/12/06			
Hardekool	**5**	**18**	
Sekelbos	**11**	**35**	
Mopani	**4**	**16**	
Super braai charcoal	**16**	**39**	
Hi-lite charcoal	**11**	**41**	
30/12/06			
Hardekool	**17**	**64**	
Sekelbos	**18**	**66**	

Mopani	**3**	**15**	
Black wattle (softwood)	**2**	**9**	
Super braai charcoal	**38**	**118**	
Hi-lite charcoal	**10**	**33**	
Shonnah briquette	**27**	**83**	

Notes:

Hardwood – no selling much because it is expensive (R18 for 5kg), however, few people, especially from the white population, prefer them than the other types of wood, especially in winter.

Sekelbos and Mopani – Sell much better because they are a bit less expensive (R14 for 5kg) and are good for braai.

Softwood (Blackwattel) – sells much better in winter for heating purposes and it is not expensive (R8 for 5kg). It is followed by hardwood.

Suppliers

(a) Charka – for softwood (blackwattel)
(b) **Hi-Lite -** for charcoal, Product of Namibian hardwood (from invaded bush and hardwood). Environmentally friendly, easy lightning and long burning, 8% fixed carbon and it is 5kg packed
(c) Briquette – Namibian hardwood, Contact: Patat du Toit, RSA cell: 082 447 0332
(d) Kalahari verspreider –
(e) **Shonnah Briquette for braai** – Namibian hardwood – Cell 082 677 0794

Management has a general knowledge of species protected by the National Forest Act although they could not mention the exact Act used to protect rare species.

2. LYNWOOD

(a) BP Garage, Charles Street – Supervisor, Simon

Normal stock ordered and sold before and during Christmas and New Year:

Normal / before festive & Christmas season			**During festive & Christmas season**
Item ordered	**No. of bags**	**Period of sale**	Sales dwindled and froze to an extent whereby it takes 3 weeks to sell 2 bags of each of the above products. Only one order has been made in November for this festive season – both Christmas and the new year. They sell far better in winter than in summer whereby the figures for hardwood which is used for heating and warmth quadruple per month than charcoal and briquette.
Hardwood	20	3 weeks	
Charcoal	20	3 weeks	
Briquette	20	3 weeks	

Supplier:

(b) Shell Garage, Lynwood Road

Normal stock ordered and sold before and during festive and Christmas season:

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	50	Month	20	Month
Charcoal	25	Month	15	Month
Briquette	25	Month	15	Month
Notes	During festive season people tend to prefer the big shops like the mall where they will get everything in one place. Shops like Pick n Pay, Shoprite and Checkers which are at the centres of these malls are the greatest beneficiaries during times like this at the expense of awkwardly placed garages like this. However, during winter, they sell even more than 100 bags of hardwood per month because people buy them in bulk for heating purposes.			

Supplier: Various distributors depending on who is reasonable and cheaper

(c) Varsity Bakery, Lynwood road – Manager, Glyton

<table>
<tr><th colspan="3">Normal / before festive & Christmas season</th><th>During festive & Christmas season</th></tr>
<tr><th>Item ordered</th><th>No. of bags</th><th>Period of sale</th><td rowspan="4">The situation for both periods is the same. Even when the students' community is back to school.</td></tr>
<tr><td>Hardwood (braai)</td><td>30</td><td>3 month</td></tr>
<tr><td>Shonna (hardwood) Charcoal</td><td>20</td><td>3 month</td></tr>
<tr><td>Charcoal (10kg)</td><td>3 demand based order/supply</td><td>1 month</td></tr>
</table>

Supplier: Buy from different suppliers and no one specifically.

(d) Engen Garage, Lynwood road

<table>
<tr><th colspan="3">Normal / before festive & Christmas season</th><th>During festive & Christmas season</th></tr>
<tr><th>Item ordered</th><th>No. of bags</th><th>Period of sale</th><td rowspan="4">No business during festive season. The garage depends on the student community who often buy for braai for their various function. Now that they are all gone home, it is quite and hardly sells one bag of charcoal in a week, which, if it does happen, it is from passer-by traders or consumers. During the cause of the year and in winter in particular, the business is flowing well.</td></tr>
<tr><td>Hardwood</td><td>100</td><td>2 months</td></tr>
<tr><td>Charcoal</td><td>200</td><td>2 months</td></tr>
<tr><td>Briquette</td><td>200</td><td>2 months</td></tr>
</table>

Supplier: Through the Head Office only

3. SUNNYSIDE

(a) Checkers, Sunny Park Mall, Essellen Street

Print-out of the sales record provided by the Manager.

(b) Abisha Motors Garage, Troy Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	15	Month	15	Month
Charcoal	15	Month	15	Month
Briquette	15	Month	15	Month
Notes	In winter they sell more than 80 bags of hardwood and black wattle per month.			

Supplier: Uptons Braai Products, Contact- Godi Giyane, Cell: 082 570 4791

(c) Republic Market Garden, Leyds Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Softwood	50	2-3 months	Oct-Dec	
Charcoal (Desert Heat)	20	2-3 months	Oct-Dec	

(d) Shoprite, Essellen Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Braaikettes	100 +	Month+	39 remained by 3/1/07	
Triquettes	100+	Month +	39 remained by 3/1/07	
Note	The Manager, Mr Denva who is responsible for orders and sales records was not available to provide us with the required information. Neither could the Admin Clark, Mr. Mabunda Walter. The above records are the mere readings of the products on the shelves with no one to explain when the stock was ordered and how many bags were ordered to date as well as whether there is any other stock ordered specifically for the festive season.			

(e) Shell Garage, Essellen Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	5	These are stock readings from the shelves. New Manager had no idea when and how many bags of each of the products were bought and how many were sold to date as well as the supplier.		
Charcoal (Hi-Lite Namibian products)	20			
Briquette	10			

(f) 331 Sunnyside Green Grocer Café, Essellen Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	4	Stock reading from the shelves. Manager's daughter in attendance. No idea when and how many bags of each product were bought and how many were sold out during the time o four visit as well as the supplier.		
Charcoal	3			
Briquette	6			

Supplier: Braai and BBQ International (Pty) Ltd. Charcoal manufactured under the license by G Floyd. "The best", "Geen beter", Tel: 013 23 - 3681

(g) AWA & SONS (Shop owned by Nigerians), Essellen Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	12 (December stock)	Dec 06/ Jan07	Sold nothing by 3/1/07	

Supplier: Stock bought from another shop in the city. Products manufactured and packaged by More Fire – SA hardwood – long burning. 14 Jesman Street, Manfield 1311

(h) 8 Till Late Fruit and Vege, Essellen Street

Normal / before festive & Christmas season	During festive & Christmas season

Item ordered	No. of bags	Period of sale	No. of bags	Period of sale
Charcoal (Charka)	3	Shop attendant had no idea about anything in the shop and only sells items that have prices on them. The owner was still on leave during the visit.		

(i) BP Sunnyside, Jeppe Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	20 (Oct stock), 4 sold out	3 months	No additions for Dec	
Softwood (black wattle)	7 (Oct stock), 4 sold to date	3 months	No sale no additions for Dec	
Charcoal (Hi-Lite)	1	Nov/Dec	No sale no additions for Dec	2 Month
Briquette	20	Nov	20 (Dec stock), 19 sold out by 3/1/7	Month

Supplier: Big Five (hardwood and briquette, Contact Piere @ 083 513 8669

(j) Sunnyside Meat and Chicken, Cnr Jeppe and Kotze Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	88	Nov/Dec	38 sold by 3/1/07 (sells better in Winter)	
Charcoal	20	Jul/Dec	15 sold by 3/1/7	

Supplier: Rico Super Braai, Contact, Chris 083 505 671

(k) Sunny Park Green Grocer, Cnr Jeppe and Essellen Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**

Hardwood	30	Oct-Dec	6 sold by 3/1/7
Charcoal	30	Oct-Dec	5 sold by 3/1/7
Briquette	30	Oct-Dec	25 sold by 3/1/7

Supplier: Stock supplied by the mother shop, Sunnyside Meat and Chicken (These shops are owned by the same owners). They order from Dessert Hat and Rico Distributors

(l) Tony Liquor Store, Essellen Street - Manager, Steve

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal	10	Month	10	Month
Briquette	10	Month	10	Month

Supplier: SA Fire Master, Hot Reds

4. LITTLETON MANOR

(a) Shell Garage, Kruger Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood (Sekkelbos)	15-20	Month	20-50	Month
Charcoal	10-15	Month	15-30	Month
Briquette (Shonna)	10-15	Month	15-30	Month

Supplier: Buy directly from suppliers. Shonna distributors supply them with both charcoal and hardwood

(b) Spar Shop, Kruger Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	50-80	Weekly	Same	Month
Softwood	50-80	Weekly	Same	Month
Charcoal (Charka-compressed charcoal). Suidwest charcoal, a product of Namibian hardwood	50-80	Weekly	Same	
Briquette [braai] (Etosha-last longer). Namibian hardwood manufactured in Piet Retief. Suidwest briquette, product of Namibian hardwood made from intruder bush	50-80	Weekly	Same	Month
Notes	Business is fast here and it is not affected by the yearly activities such as Christmas and New Year. It is in a residential white dominated community. In winter these figures triple up as people buy in bulk of 5-10 bags each for heating purposes.			

Supplier: Braai & BBQ International (Pty) Ltd, Tell-0860 102018, Fax-011 684 5119

(c) Engen Motor Call, Azelle, Supervisor

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	10	Month	17	Month
Charcoal	10	Month	16	Month
Briquette	10	Month	15	Month
Notes	By the 2nd December 06, the following bags of hardwood (17), charcoal (16) and briquette (15) were delivered. Of the above, 2 bags of hardwood was remaining while both charcoal and briquette were sold-out by the 30th December 2006. In winter they order a lot of hard and soft wood (black wattle in particular) which are in great demand for heating purposes.			

Supplier: Upton, t/a Joel Marketing, Tell: 012 664 5990, Cell: 082 570 4791 / 082 749 1893

(d) The Highlands Super Spar, Jean Avenue - Manager-Jurie

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	100	Month	250	Month
Charcoal	30	Month	60	Month
Briquette	30	Month	120	Month
Notes	In winter hard and soft (black wattle) wood are in great demand. People buy them in bulk for heating purposes. Some buy for the entire 6 to 12 weeks of winter at once. The figures of hardwood above are often sold in a week or few days.			

Suppliers: Hardwood – Bakgat Jacko, a Pretoria based private supplier
Charcoal and Brikettes – Spar Head Office

(e) BP Garage, Cnr Jean Avenue and Rabie Street

Normal / before festive & Christmas season			**During festive & Christmas season**	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	20	Month	30	Month
Charcoal (Namibian hardwood)	15	Month	20	Month

Briquette (Etosha houtskool, from Namibian hardwood)	15	Month	20	Month
Notes	Sells more of hard and soft wood in winter than anything else. These products are mostly preferred for heating in winter while in summer charcoal and briquettes dominate the sale for braai purposes.			

Supplier: Braai & BBQ International (Pty) Ltd

(f) Zennex Garage, Cnr Jean Avenue and Rabie Street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood	20	Month	20	Month
Charcoal	20	Month	20	Month
Briquette	15	Month	20	Month

Supplier: Shonna distributors

(g) Littleton Motors, Quick shop and Garage, Cnr Cantomans and Selbourne Avenue

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Hardwood (Sekkelbos)	10-20	Weekly	50	Month
Charcoal	10-20	Weekly	20	Month
Briquette	10-20	Weekly	20	Month
Notes	In winter the sale of hardwood and softwood such as the Namibian hardwood made charcoal are in great demand for heating.			

Supplier: Upton (Charcoal and Briquette)
Hyne (Hardwood)
Owner's friend (Sekkelbos)

5. ATTERIDGEVILLE

(a) Shell Garage, Mareka street

Normal / before festive & Christmas season			During festive & Christmas season
Item ordered	**No. of bags**	**Period of sale**	Same figures. However, during winter orders and sales double to an overall total of 260 fortnightly. Thus, hardwood (130) and charcoal (130)
Hardwood (4/5kg)	130	Fortnightly	
Charcoal (4kg)	130	Fortnightly	

Supplier: Buy directly from suppliers and distributors. Currently Seth & Son Funeral Suppliers provide them with hardwood and charcoal.

(b) Joe Mphogo, a Vendor – Moagi General Dealer, Mokgatle street

During festive & Christmas season			
Item ordered	**No. of bags**	**Period of sale**	Sells only during festive season – Christmas and New Year period – that is between late November and early January. Sells any brand of charcoal.
Charcoal (Extreme braai)	30-40	6-8 weeks	

Supplier: He personally goes and buys from Teba, within the Fruit and Vegetables shop at Marabastad

(c) Zakes, Vendor, Mokgatle street opposite the Zennex Garage

During festive & Christmas season			
Item ordered	**No. of bags**	**Period of sale**	Sells only during festive season – Christmas and New Year period – that is between late November and early January. Sells any brand of charcoal.
Charcoal (Extreme braai and Rico)	40-50	6-8 weeks	

Supplier: He personally goes and buys from Teba, within the Fruit and Vegetables shop at Marabastad

(d) Engen Garage, Mareka and Komane street

During festive & Christmas season			
Item ordered	**No. of bags**	**Period of sale**	The order was delivered on the 10th of December 2006 and by Dec 31st, 43 bags were sold and 7 remained
Charcoal (Rico Houtskool) on Dec 10th	50	Month	

Supplier: Rico, Contact no. 083 460 8779

(e) Engen Garage, Maunde street

Normal / before festive & Christmas season			During festive & Christmas season	
Item ordered	**No. of bags**	**Period of sale**	**No. of bags**	**Period of sale**
Charcoal (Rico Houtskool)	100	Month	250	Month
Notes			Of the 250 bags of charcoal delivered on December 13th 150 bags had been sold by the 31st. Firewood business is fast during the festive season than the other times of the year.	

Supplier: Pieter at 083 306 0613

(f) Machaba Charles, Vendor, Marike street

During festive & Christmas season			
Item ordered	**No. of bags**	**Period of sale**	A street vendor for the past 5 years. Sells only during festive season – Christmas and New Year period – that is between late 1 December and early 15th January. Sells approximately 20 bags of both items a day. He orders these products from Pieter from Nelspruit (Mpumalanga) who delivers for him.
Charcoal (Rico Houtskool) 5kg	250	6-8 weeks	
Briquette (Rico) 5kg	250	6-8 weeks	

Supplier: Pieter at 083 306 0613

Annexure U – List of Protected Tree Species

GOVERNMENT NOTICE
DEPARTMENT OF WATER AFFAIRS AND FORESTRY
NOTICE OF LIST OF PROTECTED TREE SPECIES UNDER THE NATIONAL FORESTS ACT, 1998
(ACT NO. 84 OF 1998); AS AMENDED (Government Gazette No. 29062, Notice 897, 8 September 2006)
SCHEDULE A / BYLAE A

Botanical Name	English Common Names	Other Common Names Afrikaans (A), Sepedi (Sep), Sesotho (S), Setswana (Set), Tshivhenda (T), isiXhosa (X), isiZulu (Z)	National Tree Number
Acacia erioloba	Camel thorn	Kameeldoring (A) / Mogohlo (Sep) / Mogôtlhô (Set)	168
Acacia haematoxylon	Grey camel thorn	Vaalkameeldoring (A) / Mokholo (Set)	169
Adansonia digitata	Baobab	Kremetart (A) /Seboi (Sep)/ Mowana (Set)	467
Afzelia quanzensis	Pod mahogany	Peulmahonie (A) / Mutokota (T) / Inkehli (Z)	207
Balanites maughamii	Torchwood	Groendoring (A) / Ugobandlovu (Z)	251
Barringtonia racemosa	Powder-puff tree	Poeierkwasboom (A) / Iboqo (Z)	524
Boscia albitrunca	Shepherd's tree	Witgat (A) / Mohlôpi (Sep) / Motlhôpi (Set) / Muvhombwe (T) / Umgqomogqomo (X) / Umvithi (Z)	122
Brachystegia spiciformis	Msasa	Msasa (A)	198.1
Breonadia salicina	Matumi	Mingerhout (A) /Mohlomê (Sep) / Mutu-lume (T) / Umfomfo (Z)	684
Bruguiera gymnorrhiza	Black mangrove	Swart wortelboom (A) / Isikhangati (X) / Isihlobane (Z)	527
Cassipourea swaziensis	Swazi onionwood	Swazi uiehout (A)	531.1
Catha edulis	Bushman's tea	Boesmanstee (A) / Mohlatse (Sep) / Igqwaka (X) / Umhlwazi (Z)	404
Ceriops tagal	Indian mangrove	Indiese wortelboom (A) / Isinkaha (Z)	525
Cleistanthus schlechteri var. schlechteri	False tamboti	Vals tambotie (A) / Umzithi (Z)	320
Colubrina nicholsonii	Pondo weeping thorn	Pondo treurdoring (A)	453.8
Combretum imberbe	Leadwood	Hardekool (A) / Mohwelere-tšhipi (Sep) / Motswiri (Set) / Impondondlovu (Z)	539
Curtisia dentata	Assegai	Assegaai (A) / Umgxina (X) /Umagunda (Z)	570
Elaeodendron transvaalensis	Bushveld saffron	Bosveld saffraan (A) / Monomane (Set) / Ingwavuma (Z)	416
Erythrophysa transvaalensis	Bushveld red balloon	Bosveldklapperbos (A) / Mofalatsane (Set)	436.2
Euclea pseudebenus	Ebony guarri	Ebbehout -ghwarrie (A)	598
Ficus trichopoda	Swamp fig	Moerasvy (A) / Umvubu (Z)	54
Leucadendron argenteum	Silver tree	Silwerboom (A)	77
Lumnitzera racemosa var. racemosa	Spring-tide mangrove	Tonga wortelboom (A) / Isikhaha-esibomvu (Z)	552
Lydenburgia abottii	Pondo bushman's tea	Pondo-boesmanstee (A)	407
Lydenburgia cassinoides	Sekhukhuni bushman's tea	Sekhukhuni boesmanstee (A)	406
Mimusops caffra	Coastal red milkwood	Kusrooimelkhout (A) / Umthunzi (X) / Umkhakhayi (Z)	583
Newtonia hildebrandtii var.	Lebombo wattle	Lebombo wattel (A) /Umfomothi (Z)	191

hildebrandtii			
Ocotea bullata	Stinkwood	Stinkhout (A) / Umhlungulu (X) / Umnukane (Z)	118
Ozoroa namaquensis	Gariep resin tree	Gariep harpuisboom (A)	373.2
Philenoptera violacea	Apple-leaf	Appelblaar (A) / Mphata (Sep) / Mohata (Set) / Isihomohomo (Z)	238
Pittosporum viridifl orum	Cheesewood	Kasuur (A) / Kgalagangwe (Sep) / Umkhwenkwe (X) / Umfusamvu (Z)	139
Podocarpus elongatus	Breede River yellowwood	Breederivier - geelhout (A)	15
Podocarpus falcatus	Outeniqua yellowwood	Outniekwa geelhout (A)/ Mogôbagôba (Sep)/ Umkhoba (X)/ Umsonti (Z)	16
Podocarpus henkelii	Henkel's yellowwood	Henkel - se - geelhout (A) / Umsonti (X) / Umsonti (Z)	17
Podocarpus latifolius	Real yellowwood	Opregte geelhout (A) / Mogôbagôba (Sep)/ Umcheya (X) / Umkhoba (Z)	18
Protea comptonii	Saddleback sugarbush	Compton-se-suikerbos (A)	88
Protea curvata	Barberton Lowveld sugarbush	Laeveld suikerbos (A)	88.1
Prunus africana	Red stinkwood	Rooi stinkhout (A) / Umkhakhase (X) / Umdumezulu (Z)	147
Pterocarpus angolensis	Wild teak	Kiaat (A) / Morôtô (Sep) / Mokwa (Set) / Mutondo (T) Umvangazi (Z)	236
Rhizophora mucronata	Red mangrove	Rooi wortelboom (A) / Isikhangathi (X)/ Umhlume (Z)	526
Seciridaca longependunculata	Violet tree	Krinkhout (A) / Mmaba (Set)	303
Sclerocarya birrea subsp. Caffra	Marula	Maroela (A) / Morula (Sep) / Morula (Set) / Umganu (Z)	360
Sideroxylon inerme subsp. Inerme	White milkwood	Wit melkhout (A) / Ximafana (X) / Umakhwelafi ngqane (Z)	579
Tephrosia pondoensis	Pondo fish-poison pea	Pondo vis gifertjie (A)	226.1
Warburgia salutaris	Pepper-bark tree	Peperbasboom (A)/ Molaka (Sep)/ Mulanga (T)/ Isibaha (Z)	488
Widdringtonia cedarbergensis	Clanwilliam cedar	Clanwilliam seder (A)	19
Widdringtonia schwarzii	Willowmore cedar	Baviaanskloof seder (A)	21

By virtue of the powers vested in the Minister of Water Affairs and Forestry by section 15(3) of the National Forests Act, 1998, and delegated to me in my capacity as Director: Forestry Regulation, I, Tshepo Malatji, hereby publish a list of all protected trees belonging to a particular species under section 12(1)(d) set out in the Schedule below.

The effect of this declaration is that in terms of section 15(1) of the National Forests Act, 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree, except under a license granted by the Minister to an applicant and subject to such period and conditions as may be stipulated.

Contravention of this declaration is regarded as a first category offence that may result in a person who is found guilty of being sentenced to a fine or imprisonment for a period up to three years, or to both a fine and imprisonment.

FOR MORE INFORMATION CONTACT:
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