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# THE FOREST REGULATIONS, 2004

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# THE FOREST ACT, 2002

(No. 14 of 2002)

# REGULATIONS

Made under section 106 (1)

THE FOREST REGULATIONS, 2004

#### PART I

# PRELIMINARY PROVISIONS

- 1. These Regulations may be cited as the Forest Regulations, 2004 and shall come into operation on the date of its publication.
  - 2. In these Regulations, unless the context otherwise
- "Act" means the Forest Act, 2002;

requires:-

- "authorised officer" means as defined under the Act:
- "CITES" means Convention on International Trade on Endangered Species of Wild Fauna and Flora,
- "Director" means as defined under the Act;
- "Forest Manager" means a person appointed so by the Director or Chief Executive Officer;
- "forest road" means a road in Forest Reserve developed, constructed and maintained by forest manager;
- "genetic resources" means genetic material of actual or potential value;.
- "grantee" means as defined under the Act;

### PART II

FELLING, REMOVAL AND TRANSPORTATION OF TIMBER OR OTHER FOREST PRODUCE.

3.-(1) No person shall fell or remove any forest produce the felling or removal of which is prohibited by the Act, or Short title and commence ment date

Interpreta-

Act No. 14 of 2002

Restrictions
•n felling,
removing
etc of forest
produce

these Regulations save with the written permission of the Director and subject to the provisions of this Part.

- (2) Save with a licence issued under these Regulations or otherwise as permitted under the Act, no person shall cut, fell or remove any forest produce from a forest reserve.
- (3) The form of licence to fell and remove forest produce shall be as set out in the First and Second Schedules to these Regulations.
- (4) The Licensing Officer may order the grantee of a licence issued under this Part to effect the afforestation or reforestation of the forest reserve area where the grantee is permitted to fell and remove trees.

Measurement of forest produce

- 4-(1) No standing tree or felled tree shall be cut or removed under these Regulations unless appropriate measurements specified in tables or volumes have been taken and duly recorded of such produce in the following manner:
  - (a) in log volume in the case of felled trees;
  - (b) in standing volume in the case of standing tree;
  - (c) in bundle, head-load or in weight; or
  - (d) any other manner as the Director may determine.
- (2) The volume and tariff tables for the purpose of this regulation shall be as set out in appendices I to III to these Regulations

Minimum girth

- 5.-(1) The minimum girth of trees that may be felled and removed under a licence shall be as provided for in the Third Schedule to these Regulations.
- (2) Notwithstanding the provisions of sub-regulation (1), the Director may prescribe the minimum girth for trees not listed in the Third Schedule to these Regulations.

Felling of trees

6. Every tree permitted to be felled under this Part shall be cut at a height not exceeding 15 centimetres above the ground, but in case of a buttress or swelling at this level the cutting shall be done immediately above such buttress or swelling.

7.-(1) Every person licensed to fell trees under these Regulations shall clearly mark –

Marking of v 2s to be felled and of felled trees.

- (a) on the stump of each tree with the licensee's registered property mark and number to be known as a stump number; and
- (b) on each cut log at both ends with the property mark of the licensee, the tree number and log number.
- (2) Stump numbers used by a licensee under this regulation shall run consecutively from number one upwards; number one being allocated to the first tree to be felled.
- (3) Log numbers used by a licensee under this regulation shall run consecutively from number one upwards for each stump number; the butt log being assigned number one.
- 8.-(1) The removal of forest produce allowed by a licence issued under this Part shall be completed as soon as possible within the period prescribed in the licence or within such further period as shall be extended by a forestry officer upon payment of prescribed fees.

Time and routes for removal of forest produce

- (2) Such forest produce which remains un-removed from the forest reserve after the expiry of the licence period or the extended period of the same, shall be forfeited and disposed of by the Director.
- (3) All forest produce felled and removed under the provisions of this Part shall be transported on a track or road or any other appropriate method approved by the licensing officer as prescribed on the appropriate; licence or Transit Pass issued.
- 9. No timber or other forest produce removed by a licence issued under these Regulations shall be sold, marketed or disposed of in any description other than the description of the product shown in the relevant licence or Transit Pass.

Marketing of forest produce

10. It shall not be lawful to acquire or keep in possession any forest produce unless such produce is obtained by a

Unlawful possession of forest produce

licence issued under these Regulations and duly marked by the registered mark of the Director and the registered property mark of the licensee.

Filling up of pits

11. The licensee who has felled and removed any forest produce shall at the end of such operation fill up any pits dug during the process of cutting and removing the produce at his own costs.

Sale and disposal of logging and saw milling waste

- 12.-(1) The Forestry officer responsible for the forest where logging or sawmilling has been completed shall arrange to sell any outstanding wastes accruing from any logging or sawmilling operation.
- (2) The Forestry Officer of the forest where a logging or saw milling operation is intended to be effected under a licence issued in this Part may give directions which shall bound the licensee on the manner of disposal of logging or sawmilling waste.

Transit pass for forest produce

- 13 -(1) No forest produce such as trees, timber, logs, poles, charcoal, firewood, gums, fibres, flosses and the like shall be removed from any forest area or woodlots under the control of the Forestry and Beekeeping Division, a local government or urban authority or private owner, or from any other location unless a Transit Pass in the form set out in the Fourth Schedule to these Regulations has been obtained.
- (2) A Transit Pass shall be issued under sub-regulation (1) after due ascertainment of the bona fide origin of the forest produce, to the applicant who need to remove such forest produce, from the boundaries of any forest area or any other location by a forestry officer.
- (3) Notwithstanding the provisions of sub-regulations (1) and (2), all forest produce for which a Transit Pass has been issued shall be marked in accordance with the provisions of regulation 7.
- (4) The owner of any means of transport be it by road, rail, air or any waterway, shall not accept any forest produce for transportation unless the forest produce concerned is covered by a valid Transit Pass.

(5) Infringement of the provisions of sub-regulations (1) and (4) shall constitute an offence and shall make the owner or transporters of such forest produce liable to a penalty under the Act:

# Provided that:

- (a) No Transit Pass shall be required when movement of charcoal, firewood, gums, fibres and flosses is restricted within the same administrative district; and
- (b) Registered marks of the authorised officer shall not be required for charcoal, firewood in head load, flosses and such other forest produce on which such mark cannot be indented.

# PART III

USE AND OCCUPATION OF FOREST LAND FOR CULTIVATION,

COMMERCIAL OR INDUSTRIAL USERS

14.-(1) Except where a permit or licence has been issued under these Regulations, no person shall use any land within any part of a forest for the purposes of erection of any building or structure, or occupation.

Restriction on use of land in forest

- (2) No licence or permit shall be issued under this regulation unless an environmental impact assessment has been submitted to and approved by the authorised officer.
- (3) No permit or licence shall be issued under this Regulation for erection of any building or structure for occupation or for mining within any part of water catchment areas or wetlands.
- (4) (a) No licence for grazing or cultivation shall be issued in any natural forest.
- (b) No person shall cut, fell, damage or remove any tree or forest produce from catchment areas situated in general land.

Application forms and licences for cultivation, and occupation in forest reserves

- 15.-(1) The form of application and licence for cultivation in a forest which is a plantation shall be as set out in the Fifth and Sixth Schedules to these Regulations.
- (2) No permit or licence for the occupation of any forest reserve for commercial or industrial purposes shall be allowed.
- (3) The provision of sub-regulation (2) shall not apply to commercial or industrial facilities which have been established before the coming into force of these Regulations.

Grazing or straying livestock without licence

- 16.-(1) Any livestock which is found grazing or straying in any part of a forest reserve shall be liable to seizure by an authorised officer and shall be detained by such officer at an appropriate place.
- (2) A notice of seizure shall be issued and delivered to the owner or person in charge of such livestock, if available and a copy of the notice shall be affixed or placed at nearest forest office and notification shall be made to the local village governments if necessary, for assistance in identifying and tracing the owner of the livestock seized.
- (3) The form of notice of seizure for the purposes of this regulation shall be as set out in the Seventh Schedule to these Regulations.
- (4) The owner or apparent owner of any livestock detained pursuant to this regulation shall defray the cost of sustenance and keeping of such livestock for the whole period of detention until the livestock is released.
- (5) Unless the owner exculpates himself for letting the livestock to stray or graze in the forest reserve, on admission of the offence, the offence shall be compounded.
- (6) An authorised officer may dispose by public auction of any livestock detained pursuant to sub-regulation (1), if no owner or claimant shows up within 7 days from date of seizure and either exculpate himself for the incidence to the satisfaction of the authorised officer, or pays the prescribed fees and meets the costs of sustenance as provided for in sub-regulation (4)

### **PART IV**

Use of Forest Reserves for Eco-Tourism, Camping, Hiking etc.

17.-(1) Recreation activities in forest areas shall only be permissible if they are carried out in accordance with the management plans.

Recreational activities in forest reserves

- (2) The Director shall consult the stakeholders and experts, if any, before the grant of a licence for the use of any forest reserve for such activities.
- 18.-(1) The Director shall determine the basic recreational facilities that may be provided in suitable areas of any forest reserve other than a private or village forest reserve and may licence the development, management and use of such forest reserve by any competent individual, group of individuals or institution subject to any suitable terms that he may ascribe.

Determination of recreational facilities in forest reserves

- (2) The terms and conditions for running of recreational facilities under this regulation shall include a supportive environmental impact assessment financed by the investor.
- (3) Any person or institution may apply to the Director for a licence to develop and operate recreational facilities in any part of a forest reserve, and the Director may grant such licence upon such terms and conditions as he shall determine.
- (4) A licence or lease to operate recreational facilities in a forest reserve may be granted to the successful applicant upon payment of prescribed fees as set out in the Eighth Schedule to these Regulations as may be set from time to time.
- (5) The form of application and grant of a licence to operate recreational facilities in a forest reserve shall be as set out in the Ninth and Tenth Schedules to these Regulations.
- 19. (1) The Director may in his discretion, limit or terminate the use of any licensed recreational facility if in his opinion its continued operation or the prevailing circumstances are likely to affect the environment adversely.

Power to terminate recreational facility

(2) The Director shall notify the licensee in writing on his intention to direct the discontinuation of the facility.

#### PART V

PROCEDURES AND CONDITIONS FOR THE APPLICATION OF GRANT, VARIATION, REFUSAL, EXTENSION, CANCELLATION OF LICENCES, PERMITS OR CERTIFICATES

Application and grant of permit

- 20.-(1) No activity listed in section 49 (1) of the Act may be undertaken or continued by any person in any national or local authority forest reserve save in accordance with a permit issued in that behalf under these Regulations.
- (2) The form of application and grant of a permit for the purposes of this regulation shall be as set out in the Eleventh and Twelfth Schedules hereto.
- (3) The Director shall inform unsuccessful applicants in writing of the grounds for his refusal to issue a permit, licence of certificate sought under this regulation.

Effect of conditions on permits

Cancellatio n or suspension

of a permit

- 21. Any terms and conditions endorsed on a permit shall be construed as an integral part of these Regulations.
- 22.-(1) The Director may order the cancellation and forfeiture or suspension of a permit granted under this Part for non-compliance or the breach of the terms and conditions prescribed in such permit or for an infringement of the provisions of the Act or these Regulations.
- (2) The person in respect of whom an order is made for the cancellation, forfeiture or suspension of the permit under paragraph (1) shall surrender forthwith the permit to the Director or his authorised officer.

Duration, extension and renewal of

- 23.-(1) A permit under this Part shall be issued for a specified period and shall lapse accordingly save that the Director may extend the life of the permit for a further period subject to any conditions he may impose and where he determines it to be desirable or beneficial to the public and sound forest management.
- (2) Permits issued under this Part shall not in any circumstances be transferable or negotiable and may not be assigned to unauthorised persons.

## PART VI

# PROCEDURES FOR APPLICATION AND GRANT OF CONCESSIONS

24.-(1) Any person who desires to obtain a concession of forest land within a national forest reservé or a local authority or village forest reserve shall –

Application and grant of a concession

- (a) submit an application to the Director or Chief Executive Officer on the prescribed form as provided for in the Thirteenth Schedule to these Regulations; and
- (b) in the event of a successful application, pay the prescribed fees set out in the concession agreement.
- (2) The Director or Chief Executive Officer after receiving the opinion or recommendations of the authorised officer or the responsible local authority or the village council as may be necessary, shall grant the requested concession subject to such terms and in conformity to the provisions of Part IV of the Act relating to private forests.
- (3) In the event an application made under this regulation is refused, the Director or Chief Executive Officer shall inform the applicant the grounds of refusal.
- 25. In the exercise of the power to grant or refuse an application for a concession under the preceding regulation, the Director or Chief Executive officer shall cause extensive consultations to be made with the relevant stakeholders, including local authorities and village councils of the area where the concession is intended to be granted.

Consultation with stakeholders

26.-(1) The successful applicant shall be granted the requested concession subject to conditions made by the Director or Chief Executive officer and consistent with the objectives of the Act.

Grant and record of concession

(2) The Director shall maintain a register of concessions granted under this Part with the terms and conditions for granting, extending, altering or revoking such a concession granted under this regulation.

Terms and conditions for concession

Cancellation or suspension of a

- 27. Any terms or conditions ascribed to a concession shall be construed as an integral part of these Regulations.
- 28. (1) Subject to the provision of sub-regulation (2), the Director or Chief Executive Officer may order the suspension of a concession granted under this Part for a breach of any terms or conditions attached to the concession, or for non-compliance with the provisions of any forest management plan applicable to the forest land in question.
- (2) Before effecting the suspension under the subregulation (1), the Director or Chief Executive officer shall cause a notification to be sent to the concessionaire affected giving him an opportunity to show cause why the proposed suspension should not be implemented.
- (3) If within sixty days the concessionaire fails to respond or to satisfy the Director or Chief Executive Officer that he should not be suspended, then the Director or Chief Executive Officer shall effect the suspension by written notification with reasons assigned.
- (4) Subject to the provisions of sub-regulations (2) and (3) and notwithstanding the provisions of sub-regulation (1), the Director or Chief Executive Officer may order the cancellation or revocation of a concession granted under this Part for a serious breach of the terms or conditions attached to the concession, or for non-compliance with the provisions of the Act or any forest management plan applicable to the forest land in question.

#### PART VII

FEES FOR ANY LICENCE, PERMIT OR CERTIFICATE

Rates of fees

- 29.-(1) The level of fees payable for any licence, permit or certificate issued under these Regulations shall be as provided for in the Fourteenth Schedule to these Regulations.
- (2) The Minister may by notice published in the *Gazette* amend the level of fees prescribed in such Schedule.

30. Fees for a concession and forest produce removed from forest land under a concession granted under these Regulations shall be payable at the rates, times and periods prescribed in the Agreement.

Fees for a concession

# **PART VIII**

SALE AND DISPOSAL OF FOREST PRODUCE BY TENDER, PUBLIC AUCTION,
PRIVATE AGREEMENT OF OTHERWISE

31. The Director and any authorised officer may dispose of forest produce:-

Disposal of forest produces

- (i) at the fees prescribed under Regulation 29 for tree species from non-plantation or plantation forests as appropriate; or
- (ii) by tender or public auction; or
- (iii) by a private agreement, modality or schedule.
- 32. The disposal of forest produce at the fees prescribed in regulation 29 shall be subject to the following conditions, namely-

Conditions for disposal of forest produce at prescribed fees

- (a) where a maximum and minimum fee is prescribed, an authorised forestry officer shall fix the fees after considering the species, size, the accessibility and the potential market value of the produce concerned;
- (b) the fees prescribed shall apply to produce which is felled and harvested by the purchaser, where such produce is felled, prepared, delivered or otherwise dealt with or disposed of by a government servant acting in the scope of his employment, the Director may, on behalf of the Government, in addition to the fee prescribed for such produce, charge a further fee being not more than three times the said prescribed fee;

#### PART 1%

ENTRY INTO FOREST RESERVE FOR MINING PURPOSES INCLUDING PROSPECTING AND EXPLORING FOR MINERALS

Permit for Mining activities in forest reserve

- 33.-(1) No holder of a mining licence or prospecting licence shall be entitled to enter any part of a national or local authority or village land forest reserve for mining or prospecting activities unless he has been granted a permit by the Director or Chief Executive Officer for such purpose.
- (2) No person shall take or remove rocks, stones, sands, shells and soil unless he has a perinti granted by the Director for that purpose.
- (3) The form of application and permit for naming or prospecting activities shall be as provided for in the Fifteenth and Sixteenth Schedules to these Regulations.

#### PART X

RESTRICTION OF ENTRY OF PERSONS, ANIMALS OR VEHICLES INTO A FOREST RESERVE

Closure of forest reserve's roads

- 34. (1) Any authorised officer may:-
  - (a) close to traffic any forest roads or tracks, in national or local authority forest reserves for such period as he may consider necessary either for the purpose of repair, maintenance or protection of such roads, or tracks, or for the protection of forest produce or Government property within the forest reserve against fire or theft;
  - (b) restrict the types, weights and sizes of vehicles which may use any forest road, track or bridge, in national or local authority forest reserves,
  - (c) restrict the entry of persons into any part of a national or local authority forest reserve according to prevailing conditions.

- (2) Any such closure or restriction shall be notified to the public by notices in English and Kiswahili placed in conspicuous positions at all entrances to the forest reserve affected by such closure or restriction.
- 35. (1) Notwithstanding the provisions of regulation 34 an Entry Permit may be issued by an authorised officer for any public vehicle to enter or to be moved into a forest reserve on such terms and conditions as the officer shall impose in regards of duration of stay or passage, route or other matters.

Entry permit

- (2) Notwithstanding the generality of sub-regulation (1), only draft animals may be allowed.
- (3) The form of Entry Permit under this regulation shall be as set out in the Seventeenth Schedule to these Regulations.

### PART XI

RESTRICTIONS ON ENTRY, TAKINGS AND REMOVING OF PLANTS OR PARTS OF PLANT AND SEED FROM A FOREST RESERVE

36. Except where a permit has been issued by an authorised officer, no person shall collect, take, pick, store or remove any wild plant, parts of plant or seed from a forest reserve.

Permits

37. Any person or entity desirous of collecting, taking, storing or removing a wild plant, parts of plant or seed from a forest reserve in accordance with regulation 36, shall make an application in a prescribed form and pay the necessary fees as may be 'prescribed.

Application of permit

38.-(1) The form of application and permit prescribed in this Part shall be as set out in the Eighteenth and Nineteenth Schedules to these Regulations.

Particulars of permit

(2) The grantee of a permit or licence to pick, take or removing wild plants shall carry out the operation in the presence of a forest officer who shall verify the quantity and the type of the wild plant, parts of plants or seed to be picked and removed and the requisite fee/revalty to be paid and collect the same.

#### PART XII

# COMPULSORY USE OF REGISTERED MARKS BY AUTHORISED OFFICER AND LICENCE HOLDERS

Distinctive registered mark

- 39.-(1) The Director and every local authority shall provide their respective authorised officers with distinctive registered marks.
- (2) Local Authorities shall provide distinctive registered marks to authorised officers for purposes of marking timber from village, community and private forests.
- (3) Such registered mark shall be registered with and *Gazetted* by the Director.
- (4) The authorised officer shall be responsible for the proper use and safety of such registered mark which on the officer's retirement or at any point of time which he ceases to hold the office tenure, shall deposit forthwith with the responsible forest manager.
- (5) The authorised officer shall be liable to a disciplinary action as the employing authority deems fit for any unauthorised use or misuse of the registered mark in his possession.

Registration of property marks

- 40.-(1) Any licence holder shall apply, in a prescribed form, to the Director for registration of a distinctive property mark which shall be stamped together with the locality mark.
- (2) Subsequent to the application under (1) above, a licence holder, upon approval of his application, shall be issued with a registration certificate and entered into a register of property marks.
- (3) In the event the application under paragraph (1) above is rejected, the reasons for such rejection shall be communicated to the Applicant in writing.
- (4) The form of application and of registration certificate of property marks shall be set out in the Twentieth and Twenty First Schedules to these Regulations.

Branding of Forest Produce

- 41.-(1) Any forest manager or licence holder who disposes of trees, timber, logs and poles from their forests or woodland shall, before such trees and poles are allowed to be felled, cause them to be marked with a distinctive registered mark for the identification of such trees and poles.
- (2) Before any tree, timber, logs and poles referred to under paragraph (1) of this regulation are allowed to be removed from the site, the forest manager, or licence holder shall cause to be marked with a distinctive registered mark for purposes of identifying such produce.
- (3) No forest produce being trees, timber, logs, poles, charcoal, firewood, gums, fibres and the like, shall be removed from any forest area or woodlots to any other location except under the cover of a Transit Pass in the form prescribed in the Fourth Schedule to these Regulations and marked by the registered mark.
- (4) Notwithstanding the preceding sub-regulations, a timber dealer with a registered property mark operating in a national or local authority or village or community or private forest reserve shall be allowed to only use his property marks for purposes of identifying the source of the forest produce.
- 42. (1) No person or a licensee other than the registered owner shall use registered marks.
- (2) No person shall use unregistered, defaced or counterfeited property marks.
- (3) Any person who contravenes paragraphs (1) and (2) under this regulation and any person, who defaces, destructs, cut out or removes any of the registered trade marks, commits an offence under these Regulations.
- 43.-(1) Any authorised officer shall have powers to seize or forfeit any forest produce not branded with registered property marks or on which the registered property marks have been defaced, obliterated or altered beyond recognition or have been sawn off to remove evidence.
- (2) Notwithstanding sub-regulation (1) above, the owner of the seized property shall be required to provide proof of the legality of the property within 24 hours.

Restriction on use of property marks

Power to seize unbranded forest produce

# PART XIII

PROHIBITION OF THE USE OF ROADS OR PATHS OTHER THAN PUBLIC HIGH-WAYS IN A FOREST RESERVE

Restrictions on use of roads and paths

- 44.-(1) Any road, track or path in a forest reserve other than a highway shall be deemed to be a private road.
- (2) It shall be unlawful for any person, other than a person who is travelling through a forest reserve along a public highway, cause or permit a motor vehicle to enter into the reserve.

Permit for Forest road of path

45. Any person intending to use a road, track or path, other than a public highway, passing through a forest reserve shall do so after obtaining a permit and comply with the conditions therein; the form of the permit shall be as set out in the Twenty Second Schedule to these Regulations.

Barriers on forest

- 46. The authorised officer may for such periods or at such times as he may consider necessary for the execution of his duties under these Regulations or the Act:
  - (a) erect barriers across the roads or paths and tracts passing through a forest reserve; and
  - (b) erect check-points on public highways, airports, ports/harbour and railway stations.
  - (c) require any person to stop at check points.

User to repair damage

47. Any person who damages any road, tract, path, bridge, culvert, embankment, drain or any other work constructed in a forest reserve and having done so after failure to comply with conditions on the permit stipulated under Twenty Second Schedule shall be required to make good of the damage.

Repair of forest road at offender's expenses 48. The Director, local authority, village council, or private owner of a forest reserve may make good the damage if the offender fails to do so in a specified time and bill the offender for the cost incurred in making good of the damage.

# **PART XIV**

REGULATION OF FOREST FIRES AND THE USE OF INFLAMMABLE MATERIALS WITHIN FOREST RESERVES AND WOODLANDS

- 49.-(1) No person while in a forest reserve shall:-
  - (a) light or maintain a fire, or cause a fire to be lighted for purposes of cooking or preparing a meal or boiling water or for any other purposes, other than a lamp or stove having being permitted to do so within a camping site or stopping place;
  - (b) leave any fire, which he has lighted, or which he has caused to be lighted, un-extinguished;
  - (c) discard any burning or incandescent object;
  - (d) use fire in connection with charcoal making, lime making, brick making, honey harvesting, distillation or activities of a similar nature or the destruction of waste or such activities;
  - (e) use fire in the open air for the purpose of or in connection with the destruction of sawmill waste, unless such fire is lit:
    - (i) in an incinerator with which the escape of sparks, incandescent or burning material is prevented:
    - (ii) within a pit dug into the ground or ground enclosed with a 2 meter high fence of fire resisting materials where the top of waste to be burnt shall be not less than 60 centimetres below the top of the pit or the top of the edge of the fence and provided that the area within a radius of 10 meters from the edge of the pit of fence is cleared of all inflammable material.
- (2) No person other than a forest officer or manager shall light or maintain or use or cause to be maintained or used any fire in any forest reserve for the purposes of cleaning bush, timber scrub, trees, grass or any other material for burning any firebreak unless:
  - a written permit has been applied for and be granted by a forest officer or forest manager;
     and

Restrictions on use of fire and inflammable objects

- (b) such fire is lit, maintained and used in compliance with conditions of the said permit.
- (3) The form of application and permit under sub-regulation (2) shall be as set out in the Twenty Third and Twenty Fourth Schedules to these Regulations.
- (4) Any person or body of persons conducting saw milling, logging and other ferest operations in any forest reserve shall:
  - (a) surround his working compound, building, logging and landing yards, logging camps and settlements with a fire break completely cleaned of all inflammable material to a minimum width of 10 metres and maintain such a clean condition at all times:
  - (b) carry out protective early burning in the vicinity of the industry, camp or settlement from time to time as directed by a forest officer or manager and;
- (5) Every person or body of persons carrying out logging or similar licensed or permitted forest operations shall maintain a minimum requirement of fire fighting equipment and must be able and ready to provide additional fire fighting equipment to combat forest fires as and when directed to do so by a forest officer or manager and shall take all reasonable precautions to avoid and prevent damage to a forest reserve by fire and to extinguish any fire arising from their operations.
- (6) In the event the forest officer deem that milling, logging or any other operations in a forest reserve may give rise to a danger of ignition or rapid spread of fire, he may require a holder of a logging licence or any other forest licensed operations in any forest, to suspend milling, logging or any other activity, until instructed otherwise and in writing by the forest officer.
- (7) Any person who has knowledge of any fire outbreak shall report the same to the forest officer or any authorised officer and where possible seek assistance of neighbours to extinguish the fire swiftly.

(8) The Director or any authorised officer may by order close for a stated period any forest reserve or roads, tracts or paths passing through such a reserve to protect the same from fire or to prevent loss of property and life where the forest reserve is already on fire.

### PART XV

# REGULATION ON THE EXPORT OF FOREST PRODUCE

- 50.-(1) No logs of any tree species shall be exported.
- (2) No forest produce and wood products shall be exported unless it has been inspected and graded by a grader in the manner prescribed and complies with one of the grades set out in the Twenty Fifth Schedule and Twenty Sixth Schedule to these Regulations.

Grading for Export of hardwoods and softwood

(3) All hard wood and soft wood timber exported shall have been hammered, marked or stencilled with one of the grade marks described in the Twenty Fifth Schedule or Twenty Sixth Schedule respectively; such grade marks shall correspond to the grade of the timber into which the timber falls at the time of grading.

Grade marks

- (4) All graded timber shall be marked indelibly with the registered number of the grader who graded the timber; this number shall be within a circle and no other number may be within the circle.
- (5) No grader shall use any number other than that shown on the authorization to grade issued to the grader by the Director under Section 60 of the Act.
- Grader's number and other marks
- (6) The following marks may also be placed on graded timber, subject to the provisions of these Regulations:
  - (a) the name of the timber, provided that only the appropriate standard name as listed in Twenty Seventh Schedule to these Regulations shall be used for this purpose;
  - (b) A mark of origin which may be either a mark registered by the saw miller who produced the timber, or a mark registered by the dealer or exporter of the timber, or both such marks; and
  - (c) Shipping marks.

Registratio n of marks of origin (7) All marks of origin shall be registered with the Director and no mark shall be used unless the Director has given his permission in writing

Placing of marks

- (8) (a) Marks may be placed on a face or on an end of a piece of timber, or in the case of timber secured in bundles, on the outside of the bundle and if placed in a face they should be placed on the graded face.
- (b) If the timber is to be secured in bundles the grader must inspect each and every piece before the bundle is secured.
- (9) The appropriate grade mark and the grader's mark shall be placed on each piece of timber or on each bundle, if the timber is secured in bundles, by the grader, or in the presence of the grader, at the time of grading.

Grading restrictions

- (10) No grader shall grade or attempt to grade any timber the surfaces of which are obscured by dirt, nor shall he/she grade or attempt to grade any timber except in the open in full daylight.
- (11) No grader shall grade or attempt to grade any timber or shall place any grade marks upon or issue any Certificate of Grading in respect of any timber, which in his opinion:
  - (a) contains live borers, rot or decay, soft or pulpy heart, and unsound and loose knots except as allowed in the grading specifications described in the Twenty Fifth Schedule and Twenty Sixth Schedule to these Regulations;
  - (b) is affected by brittle heart, compression failures and severe surface checking;
  - (c) is affected by twist, cup, bow and spring unless in the opinion of the grader these defects are so slight that the piece of timber can be surfaced on both sides to its finished dimensions, or unless these defects come within the limits set out in the separate grade specifications for hardwood and softwood timbers in the Twenty Fifth Schedule and Twenty Sixth Schedule to these Regulations, respectively; and

- (d) is not in shipping dry condition or drier, unless green timber is specified by the buyers in which case the timber shall be graded as Specified Grade and shall be marked accordingly.
- (12) When any defect, which is not included in the grading specifications, is encountered, such defects shall be considered according to its estimated damaging effect on the piece of timber which shall be graded and marked accordingly:
  - (a) On the completion of grading and marking a grader shall issue a Certificate of Grading which shall be in the Form A prescribed in the Twenty Eighth Schedule to these Regulations; each and every part of such certificate shall be completed.
  - (b) It shall be an offence for any grader to issue any Certificate of Grading knowing or having any reason to believe that the same is false in any material peculiar.
  - (c) It shall be an offence for any person other than a grader to issue any Certificate of Grading.
  - (d) Each and every Application for an Export Certificate which shall be in the Form B prescribed in the Twenty Eighth Schedule hereto, shall be accompanied by a valid Certificate of Grading referring to the timber for which the application is made, or reference shall be made on the application form to the appropriate Certificate of Grading if such Certificate of Grading shall already have been submitted with some prior application for an Export Certificate.
  - (e) Export Certificate shall be in the Form prescribed in Twenty Eighth Schedule to these Regulations.
- (13) Each Export Certificate shall include a certification signed by the Director indicating that the timber approved for export under the Export Certificate were originated sourced from a sustainable managed forest cover in Tanzania.

Export certificate

Forest certifica-

(14) Where applicable, each export certificate shall include a certification signed by the CITES Management authority indicating that the timber approved for export under the export certificate complies with CITES conditions.

### PART XVI

# PROHIBITIONS ON DAMAGE TO FOREST PRODUCE

Precautions in forest reserve

- 51.-(1) No person shall injure, destroy or remove any vegetation, tree or any timber in a forest reserve.
- (2) Any holder of a licence or permit or any person shall, while conducting operations in a forest reserve, take all reasonable precautions not to damage any forest produce.
- (3) Any holder of a licence or permit or any person who negligently or wilfully causes damage to a forest or forest produce shall, within a stated period, make good the damage.
- (4) In the event of any failure by the licence or permit holder or any person to do so as stated under paragraph (2), the forest officer or manager shall make good the damage at the cost and expense of the licence or permit holder.
- (5) The forest officer or manager shall bill the holder of a licence or permit or any person on any damaged forest produce that cannot be made good at the prescribed fees or royalty or as the forest officer or forest manager shall determine in the absence of prescribed fees or royalty for the forest produce in question.

### PART XVII

### PROVISIONS ON ACCESS TO GENETIC RESOURCES

Publication of Genetic Resources

- 52.-(1) The Minister shall declare and publish by order, in the *Gazette* a list of genetic resources found in any forest areas of Tanzania mainland.
- Prior informed consent and access permit
- (2) Any access to any genetic resource in a forest area governed by the Act shall be subject to an application for a prior informed consent to the Director and the forest manager of the forest that access is being applied for.

- (3) The Form of Application for the prior informed consent shall be in the Form prescribed in Twenty Ninth Schedule to these Regulations.
- (4) Upon completion of the application, the Director shall cause to be placed, the said application in the *Gazette*, or cause it to be published in a newspaper that is reasonably accessible to the public for a period of 90 days.

Public Registry

- (5) The Director shall cause a copy of the application to be sent to the public registry.
- (6) Any person may consult the public registry and comment on the application.
- (7) The Director shall cause the wide and effective dissemination of the relevant information on the Application to the communities concerned and to other interested parties.
- (8) (a) Except with a permit applied and granted by the Director, no person shall have access to genetic resources in any forest in any part of the country.

Granting of access

- (b) The form of application for access to genetic resources shall be in the Form prescribed in the Thirtieth Schedule to these Regulations.
- (9) The Director shall approve the granting of access to the biological resource or the community innovation, practice, knowledge or technology in question with any conditions it may deem necessary. In granting access the Director shall ensure that all the requirements under these Regulations have been fulfilled.
- (10) Any access permit shall be granted through a signed written agreement, between the Director and the concerned local community or communities on the one hand, and, the applicant or collector on the other hand.
- (11) The access permit shall only be valid if there is a written prior informed consent.

Content of the agreement

- (12) The agreement referred to in sub-regulation (8) shall contain commitments undertaken or to be undertaken by the collector, as follows:
  - (a) to adhere to a limit set by the Director on the quantity and specification of the quality of the biological resource that the collector may obtain or export;
  - (b) to guarantee to deposit duplicates thereof, with complete field information on, each specimen of the biological resource or the records of community innovation, practice, knowledge or technology collected with the duly designated governmental agencies and, if so required, with local community organizations;
  - (c) to inform immediately the Director and the concerned local community or communities of all findings from research and development on the resource;
  - (d) not to transfer the biological resource or any of its derivatives or the community innovation, practice, knowledge or technology to any third party without the authorization of the Director and the concerned local community or communities;
  - (e) not to apply for any form of intellectual property protection over the biological resource or parts or derivatives thereof and not to apply for intellectual property rights protection over a community innovation, practice, knowledge or technology without the prior informed consent of the original providers;
  - (f) to provide for the sharing of benefits;
  - (g) access shall be conditioned upon a commitment to contribute economically to the efforts of the State and concerned local community or communities in the regeneration and conservation of the biological resource, and the maintenance of the innovation, practice, knowledge or technology to which access is sought;

- (h) submit to the Director a regular status report of research and development on the resource concerned and where the biological resource is to be collected in large quantities on the ecological state of the area; and abide by the relevant laws of the country particularly those regarding sanitary control, bio-safety and the protection of the environment as well as by the cultural practices, traditional values and customs of the local communities.
- (13) All efforts should be made for research to be done in the country and in a manner that facilitates the participation of actors in the country of the provider of the biological resource.

Research on genetic resources

(14) Patents over life forms and biological processes are not recognized and cannot be applied for under these Regulations.

Patents

(15)-(a) The access permit should be subject to the payment, made before commencement of collection, of a fee the sum of which will depend on whether or not the collection is to be used for commercial purposes, and the number of samples, the area of collecting, the duration of collection and whether or not the collector is granted exclusive rights.

Benefit sharing

- (b) The State and the community or communities shall be entitled to a share of the earning derived from when any biological resource and/or knowledge collected generates, directly or indirectly, a product used in a production process.
- (c) The State shall ensure that at least fifty per cent of benefits provided for in paragraph (a) shall be channelled to the concerned local community or communities in a manner which treats men and women equitably and shall involve the full participation and approval of the concerned local community or communities.
- (16) (a) Having ascertained that the conditions set by the prior informed consent procedure have been fulfilled, the Director shall grant the applicant/collector the appropriate permit for access; which may be an academic research permit, a commercial research permit, or a commercial exploitation permit.

Types of permits

(b) No person shall be in possession of and use two types of permit at the same time for the same resource unless granted written permission to do so.

Revocation of Access
Permit

- (17) The Director may unilaterally withdraw consent and repossess the written permit under the following conditions:
  - (a) when there is evidence that the collector has violated any of, the provisions of these Regulations or any other law;
  - (b) when there is evidence that the collector has failed to comply with the agreed terms;
  - (c) when there is failure to meet any of the conditions of access:
  - (d) for reasons of overriding public interest; or
  - (e) for the protection of the environment and biological diversity.
- (18) Any termination or withdrawal of consent shall be done in consultation with the concerned local community or communities.

Restrictions on genetic resources

- (19) The Director should establish restrictions to or prohibitions on those activities which are directly or indirectly related to access to or introduction of a biological resource, particularly in cases of:
  - (a) endangered taxa;
  - (b) endemism or rarity;
  - (c) adverse effects upon human health or upon the quality of life or the cultural values of local communities;
  - (d) environmental impacts which are undesirable or difficult to control;
  - (e) danger of genetic erosion or loss of ecosystems, their resources or their components, which arise from undue or uncontrolled collection of biological resources;
  - (f) non-compliance with rules on bio-safety; and
  - (g) use of resources for purposes contrary to national interest and to relevant international agreements entered into by the country.

(20) Local communities have the right to refuse access to their genetic resources, innovations, practices, knowledge and technologies where such access will be detrimental to the integrity of their natural or cultural heritage.

Rights of Local Communities

- (21) Local communities shall have the right to withdraw consent or place restrictions on the activities relating to access where such activities are likely to be detrimental to their socioeconomic life, or their natural or cultural heritage.
- (22)Local communities shall exercise their inalienable right to access, use, exchange or share their biological resources in sustaining their livelihood systems as regulated by their customary practices and norms.
- (23) (a) The Community Intellectual Rights of the local communities, including traditional professional groups, particularly traditional practitioners, shall at all times remain inalienable, and shall be further protected under the mechanism established by the relevant law relating to Intellectual Property and Rights.

Recognition of community intellectual rights

- (b) An item of community innovation, practice, knowledge or technology, or a particular use of a genetic or any other forestry resource shall be identified, interpreted and ascertained by the local communities concerned themselves under their customary practice and law, whether such law is written or not.
- (c) Non-registration of any community innovations, practices, knowledge or technologies, shall not mean that these are not protected by Community Intellectual Rights.
- (d) The publication of a written or oral description of a genetic resource and its associated knowledge and information, or the presence of these resources in a gene bank or any other collection, or its local use, shall not preclude the local community from exercising its community intellectual rights in relation to those resources.

#### PART XVIII

Provisions for the Registration and Payment of Fees of all Dealers of Timber and Forest Produce

53.-(1) Any person intending to operate a sawmill, chipboard mill, pulpwood mill, wood preservative treatment

Dealer's licence

plant and any other similar installation of a similar nature must apply for and obtain a licence under these Regulations.

- (2) Any person who has established a saw mill or plant or installation, shall employ qualified personnel who shall be responsible for the operations of the established facility.
- (3) Any person who successfully obtains a licence for a sawmill or plant or installation shall use efficient technology as may be determined by the Director, for processing the products.
- (4) The form of the application and the content of the licence described under paragraph 1 of this regulation shall be set out in the Thirty First and Thirty Second Schedules to these Regulations.
- (5) The licence to be issued under paragraph (1) of this regulation shall prescribe the terms and conditions of using the saw mill.
- (6) Any person who unsuccessfully applies for a sawmill licence shall be so informed in writing and the reasons for the refusal to issue the licence shall be stated.
- (7) The licence described under paragraph (1) of this regulation shall expire on the 30<sup>th</sup> day of June each calendar year and may be renewed by application to be made two months before the expiry date.
- (8) Any holder of a licence described under paragraph (1) of this regulation who intends to:
  - (a) remove a sawmill to another site
  - (b) increase the maximum capacity of a sawmill;
  - (c) transfer a sawmill licence,

shall be authorised in writing by a forest officer or manager before doing so.

(9) Any product produced from a licensed sawmill shall be marked with a registered property mark identifying the source of the processed product.

- (10) The format for the Application of a licence to erect or utilize or both a Sawmill shall be in the prescribed form in the Thirty Third and Thirty Fourth Schedules to these regulations.
- (11) The format for the Application of a licence to erect or utilize or both a pressure timber preservative, pulp, paper, fibberboard, chipboard and plywood plant shall be in the prescribed form in the Thirty Fifth Schedule to these Regulations.
- (12) Any holder of a saw mill or Pressure Timber Preservative Plant licence shall prepare and submit returns to the Director in a prescribed manner as set out in the Thirty Sixth Schedule to these Regulations.
- 54.-(1) No person shall deal with or trade in timber or other forest produce without applying for and obtaining a certificate of registration as a timber or other forest produce dealer or trader.

Certificate of registration

- (2) The form of the application, the content of the certificate of registration and prescribed fees described under paragraph (1) of this Regulation shall be as set out in the Thirty Seventh and Thirty Eighth Schedules to these Regulations.
- (3) Any person who unsuccessfully applies for a certificate described under paragraph (1) of this regulation shall be so informed in writing and the reasons for the refusal to issue the licence shall be stated.
- (4) The licence described under paragraph (1) of this regulation shall expire on the 30<sup>th</sup> day of June each calendar year and may be renewed by application to be made two months before the expiry date.
- (5) The holder of a certificate for dealing with timber or forest produce shall prepare and submit quarterly returns to the Director in a prescribed manner as set out in the Thirty Ninth Schedule to these Regulations.

#### PART XIX

# PROHIBITION OF HARVESTING, GRAZING, CULTIVATION AND MINING IN CATCHMENT FORESTS

Restrictions on grazing, cultivation, mining and harvesting 55. It is hereby prohibited to graze, cultivate, mine, harvest or cut or remove any tree or forest produce from any area of Catchment or of watershed value by any person or persons, institution or parastatals for any use except where such act is done for purposes of forest management of Catchment or watershed value.

Illegal possession of timber, mineral and agricultural produce from 56. Any person who has in his possession of any timber, mineral agricultural produce summed to be illegally obtained from any Catchment Forest or an area of watershed value shall be guilty of an offence against these Regulations and all timber shall be confiscated and shall be the property of the Government.

Penalty

57. Any person or persons who contravene the provisions of these Regulations shall be guilty of an offence and shall on conviction, be liable to such penalty as prescribed under the Act and any materials found with him/her while committing the offence shall be confiscated by the Government.

# PART XX

### MISCELLANEOUS

General penalty

58. Any person who contravenes any provision of these Regulations for which no specific penalty is provided for in the Act shall be liable on conviction, to a fine not exceeding five hundred thousand shillings or a term of imprisonment of two years or to both such fine and imprisonment.

Revocation

- 59. The following subsidiary legislation are hereby revoked;
  - (1) Forest Rules, 1959

GN 145 of 1965

(2) The Export of Timber Rules, 1965

GN 508 of 1995 (3) The Registration of Forest Produce Dealers and Traders Order, 1995;

(4)	Forest Regulations	1996;	GN 295 of 1996
(5)	•	(Exemption of Forest Reserve, and Possession of Mangroves),	GN. 330 of 1961
(6)	•	ions of Forest Reserves, y and Beeswax), 1961;	GN. 331 of
(7)	, -	tion of the Export of Hardwood gs and Other hardwood forest 193;	GN. 266 of 1993
(8)	The forests (Pro Catchment Forest)	ohibition of harvesting in Order, 1995;	GN 507 of 1995
, ,	•	ol of Movement of forest of timber) Order, 1995	GN. 509 of 1995
(10)	The Forests (Amen	dment) Rules, 2001	GN. 29 of 2001
	First Sch	EDULE	
	(Made under reg	Form No. FD 1 gulation (3))	
		TION OF A LICENCE TO FELL AND PRODUCE IN A FOREST RESERVE	
to operate in the	Forest Re	Box hereby make an application eserve at for felling s/poles of the following description	
DESCRIPTION OF	1 SPECIES	QUANTITY (M <sup>3</sup> FOR TREES, OR BUNDLES, OR WEIGHT	
		es, and costs, as well as to compensate for unditions prescribed in the licence.	L
Signature of App	licant (s)	Date	
Application fees paid	Tshs ER <b>V</b> no.		

#### SECOND SCHEDULE

Form No. FD 2

(Made under regulation (3))

# LICENCE TO FELL AND COLLECT FOREST PRODUCE IN A FOREST RESERVE

S/No						
OFFICE of	OFFICE of(Seal of the Office)					
fell/collect at	(place) in	theantity and value subject to the	Forest Reserve forest			
Description and	Species	Rate of fee per	Total royalty TShs.			
quantity of forest produce (in m <sup>3</sup> for		TShs.	1508.			
trees, bundles or weight)		75115.				
The following are the approved routes for the removal and transportation of the forest produce listed herein  FEES/royalty amounting to Shs. have been paid by the licensee on ERV receipt No. Dated						
The licensee has also paid charges/compensation amounting to Shs on ERV receipt No						
Date		Signature STAM.	of Licensing Officer P			

### **CONDITIONS**

- 1. This licence is valid for 30 days only from the date of issue
- This licence may be extended in exceptional circumstances, on the written authority of the forest officer for a period of 15 (fifteen) days only on payment of a fee of 20% (twenty percent) calculated on the royalty.
- The licensee has no right over any leaves and roots of felled trees and poles.
- 4. No refund of royalty paid shall be made on grounds of any defects in the felled material or for any other reason.
- The licensee is only allowed to fell trees/poles specifically marked for the purpose.
- 6. The licensee shall be liable to pay the full royalty and such fines as may be determined by the forest office to causing damage to any unmarked tree/poles or face legal action in this respect.
- All forest produce pertaining to this licence shall be removed from the felling site before expiry of this licence under cover of a proper Transit Pass (T.P) for when application shall be made to.

# THIRD SCHEDULE

# (made under regulation (5))

# PRESCRIBED MINIMUM GIRTH FOR TREES REMOVABLE FROM A FOREST UNDER LICENCE

Minimum felling girth for indigenous tree species from natural forests shall be:

NO.	SPECIES NAME	TRADE NAME	MINIMUM GIRTH (CM)	MINIMUM DIAMETER (DBH) (CM)
	1	2	3	4
1	Khaya anthotheca	Mkangazi, Africa Mahogany	165	55
2	Milletia excelsa	Mvule	165	55
3	Antiaris usambarensis	Antiaris	165	55
4	Mourus hactea	East African Mulbery	165	55
5	Bombax rhodognaphalon	East African Bombax Msufipori	165	55
6	Afzelia quanzensis	Afzelia, Mkora	165	55
7	Ocotea usambarensis	Ocotea, Camphor	165	55
8	Cephalosphaera usambarensis	Mtambara	165	55
9	Beilschimedia kweo	Mkweo, Mfimbo	180	60
10	Podocarpus all Spp.	Mpodo	150	50
11	Olea welitchii	Loliondo	135	45
12	Pterocarpus stolzii	Muniga	135	45
13	Vitese all Spp.	Mtumbati mtoni	135	45
14	Erythrophloem guinence	Vitese, Mfundo	135	45
15	Terminalia, all Spp	Msanda, Misanda	135	45
16	llese mitis	Terminalia, musisi	135	45
17	Fagaropsis angolensis	Mfu	135	45
18	Albizia, all Spp.	Albizia	135	45
19	Syzygium, all Spp.	Syzygium, Mzambarau	135	45
20	Diospyros mespiliformis	African ebony	135	45
21	Brachystegia speciformis	Mtundu, Mtondolo	165	55
22	Julbernardia globiflora	Muva, Muyenze	120	40
23	Brachylaena huillensis	Muhuhu	120	40
24	Hagenia abyssinica	Hagenia	75	24
25	Swartizia madagascarensis	Pau rosa, msekeseke	75	24
26	Dalbergia melanoxylon	Mpingo	75	24
27	Adina microcephala	Mgwina	45	20
29	Combretum schumanii	Mpera mwitu, mgeruwe	165	55
30	Entandophragma all Spp.	Mrie mbokoboko	75	54
31	Juniperous all Spp.	Pencil Cedar	165	55
32	Markhamia all Spp.	Mtalawanda	75	24
33	Newtonia pacijuga	Mshashita, Mdadalika	150	50

34	Newtonia, all Spp.	Netonia,	150	50
35	Parinari exelsa	Mkufimpunga Mubula, Msaula	1 150	50
36	Osyris santallum	Sandal wood, Msandali	150	24
37	Baphia kirkii	Mkuruti	75	45
38	Casipourea malosana	Pilla wood, Ndiri	135	55
39	Maesopsis all Spp.	Musizi, Muhumula	165	55
40	Lovoa all Spp.	Kilimanjari mahogany	165	55
41	Codyla africana	Uroma, Mgwata	150	50
42	Burkea Africana	Mkarati, Mgendo	150	50
43	Fagara amaniensis	Amani satin wood	150	50
44	Spirostachys africana	Msaraka	150	50

# FOURTH SCHEDULE

Office of the (seal) ...... Number ...... Date ......

Form No. FD 3

(made under regulation (13))

TRANSIT	DACC	$E \cap B$	EOBECT	DBUDI	ICE

1.	(specify lice permitted	ssrs (Name) ence number) to remove the	fo said pro	or the forest oduce fron	produce sp	pecified h	ereunder is
2.	property designation.	produce bears/does mark of license	e of (	(Name) (statio	 on)		•
				A			
3.	checking	t Pass along with the and verification s)					
<b>4</b> . 5.		ansport allowed (Road t Pass shall expire on					
PARTICU	JLARS OF FO	OREST PRODUCE					
Descri	ption	Species and size individual logs, tim poles)			Quant	ity	
		Ĺ	[				

6. The forest produce bears/does not be	ar the personal hammer mark of (name)		
	roduce described above shall be presented for (name)		
Name, Signature and Seal Of Issuing Officer	Name, Signature and Seal of the final station		
Date	Date		
FIFTH SCI	HEDULE		
(made under regula	ation 15(1))		
PARTI			
APPLICATION OF A LICENCE TO CULTIV	VATE IN A FOREST PLANTATION		
	x Hereby apply for a licence to (locality) within the		
I/we undertake to pay the prescribed fees and charges and to comply with the conditions which the Issuing Officer may prescribe.			
Signature of Applicant Application fees	Date		
Shs. against ERV Receipt No.  PART II	. dated .		
REFUSAL TO GRANT LICEN	NCE TO CULTIVATE		
P. O. Box			
(The Applicant)			
• •	tivate at in the as been rejected on the following grounds,		
Station Issuing	Officer		
	nd Signature Title (STAMP)		

Sta

#### SIXTH SCHEDULE

Form No. FD

(made under regulation 15(1))

# LICENCE TO CULTIVATE (Not transferable)

	(Not transferable)
Date	Station
	o the terms and conditions of the Forest Act, No.14 of 2002, and any regulations or rules re under, and to the conditions stated below:
(Name	and address) o
	at the locality known as
Condition	ns
1.	The licensee shall pay to the Issuing Officer the sum of Shs
2.	The licensee shall not cultivate any permanent crops nor any crops of
3.	The licensee shall cultivate only in the area designated by the Issuing Officer and the area to be cultivated shall be marked out by the licensee to the satisfaction of the Issuing Officer.
4.	The Licensee shall take all necessary precautions to prevent damage to trees and other forest produce arising out of his operations under licence and shall be responsible for acts of his servants, employees or agents.
5.	The Licensee and his servants and employees shall at all time assist forestry officers in the prevention and extinction of fires in or threatening the subject area of this licence, and in the prevention and detection of forest offences.
6.	In the event of contravention of any provision of the Forest Act, or any rules there under or any term or condition of this licence, this licence may be cancelled.
7.	The licensee shall, on the expiry of this licence surrender the same to the Issuing Officer.
8.	Should the Licensee fail to exercise his rights under this licence within the period stated, by reason of circumstances beyond his control, the Issuing Officer in his discretion may in writing extend the period stated as he may think fit, or he may refund to the Licensee a sum not exceeding 90 per cent of the fee paid, provided that no fees shall be refunded after six months from the date of issue of this licence and

Act No. 14 of 2002

Government.

- 9. The Licensee shall at all times practice good husbandry on the area under cultivation.
- Only those buildings which are specified hereon shall be erected and they shall be sited only in the localities authorized.

any part of such amount not refunded as herein provided shall be forfeited to the

- 11. The Licensee shall remove at his own expense all buildings erected and in crops planted by him under this licence within a commonths of the expiry of this licence.
- 12. The forestry officer may plant or sow trees in the areas under cultivation by the Licensee at any time and he shall take all reasonable precautions to avoid damage to crops grown by the Licensee in accordance with this licence.
- 13. The Licensee shall keep the area under cultivation reasonably free from weed growth and shall not allow his crops to damage young trees planted or so the strain officer.

Additional Conditions: (To be certified by a Senior Forestry Officer).
Name and Signature of Issuing Officer Title
Place . Date
STAMP OR SEAL
SEVENTH SCHEDULE
Form No. FD 6 (made under regulation 16(3))
NOTICE OF SEIZURE OF LIVESTOCK STRAYING IN A FOREST RESERVE
To
Be notified that the following animals/heard of cattle of which you are the owner/apparent owne have been detained on the following grounds
Particulars of the animals
Description Number
unless lawful grounds are given to the authorized officer you are liable to a penalty as shall be assessed, and the animals shall not be restored to you until you have paid the penalty in full and the costs for the keeping and maintaining the animals; If the animals are not collected by you within seven days the authorized officer reserves the right to sell the animals in order to defray the costs of maintaining the animals.
Station
Datc Name and Signature of Issuing Officer

# EIGHTH SCHEDULE

(made under regulation 18 (4))

# SCALE OF FEES FOR RUNNING A RECREATIONAL FACILITY IN A FOREST RESERVE

# A: ENTRANCE FEE FOR EACH PERSON PER DAY

		NATIONALS (Tanzanian Shillings)	EXPATRIETS (US Dollars or equivalent)	NON- RESIDENTS (US Dollars or equivalent)
1.	For each person of or above the age of sixteen years	1,500.00	30.00	30.00
2.	Between the age of five and sixteen years	500.00	5.00	5.00
3.	Children below the	Free	Free	Free
	age of five years			

# B: PERMIT FOR CAMPING FOR EACH DAY

	Camping Sites	NATIONALS (Tanzanian Shillings)	EXPATRIETS (US Dollars or equivalent)	NON- RESIDENTS (US Dollars or equivalent)
1.	For each person of or above the age of sixteen years	1,000.00	20.00	20.00
2.	Between the age of five and sixteen years	100.00	5.00	5.00/
3.	Children below the age of five years	Free	Free	Free

# C: PHOTOGRAPHY

		NATIONALS NON- RESIDENT	
		(Tanzanian Shillings)	(US Dollars or equivalent)
1.	Per day	3,000.00	10.00

# D: PERMIT FOR EACH VEHICLE PER DAY

		TANZANIA REGISTERED (Tanzania Shillings)	FOREIGN REGISTERED (US Dollars or equivalent)
1.	Tare weight up to 2000 kilograms	5,000.00	30.00
2.	iare weight from 2000 to 7000 kilogiams	10,000.00	150.00

#### E: GUIDE SERVICES FEE PER DAY

		RESIDENTS (Tanzanian Shillings)	NON- RESIDENTS (US Dollars or equivalent
1.	For use of official guide	500.00	10.00
2.	W: Iking Safari	5,000.00	20.00
	guide		

# F: COMMERCIAL FILMING FEES

Signature of Applicant

Each person (including Directors, Producers, Artists, Technicians) and making or participating in making of film.

		US Dollars or equivalent per day
1.	For a group of 1 – 10 persons	
	First week	\$00.00
	Second week	600.00
	Third week	400.00
	For each subsequent week	200.00
2.	For a group of 11 – 20 persons	
	First week	1,600.00
	Second week	1,300.00
	Third week	1,000.00
	For each subsequent week	600.00
3.	For a group of more than 20 persons	
	First week	3,000.00
	Second wcck	2,000.00
	Third week	1,500.00
	For each subsequent week	6,000.00

# NINTH SCHEDULE

Form No. FD 7

Date

(made under regulation 18 (5))

# FORM OF APPLICATION OF A LICENCE TO OPERATE A RECREATION FACILITY IN A FOREST RESERVE

# PART I APPLICATION TO OPERATE A RECREATION FACILITY

I/We licence/lease to ope	rate a recreation faci		hereby apply for a Forest Reserve at
I/We undertake to abid	dc by the terms and conc	ditions prescribed by the D	virector.

# PART II

# REFUSAL TO GRANT LICENCE

То	
Dear Sir	/Madam,
	plication for a licence/lease to operate a recreation facility at
Dated at	this day of
,	DIRECTOR OF FORESTRY . Name, Signature and Seal
	TENTH SCHEDULE
	Form No. FD 8 (made under regulation 18 (5))
	LICENCE TO OPERATE A RECREATION FACILITY IN A FOREST RESERVE
recr	S licence/lease is granted to
1.	Payment of fees being Shillings, plus an annual remittance of Shillings.
2.	This licence is not transferable
3.	
4.	
lssu	ed at this day of
	DIRECTOR OF FORESTRY

(Name, Signature and Seal)

# ELEVENTH SCHEDULE

Form No. FD 9

(made under regulation 20 (2))

# APPLICATION OF A LICENCE, PERMIT OR CERTIFICATE OTHER THAN FOR FELLING AND COLLECTING FOREST PRODUCE

# PART I APPLICATION FOR LICENCE/PERMIT/CERTIFICATE\*

licer	nce/p	ermit/certificate* or extension/renewal of the same for
		dertake to pay the prescribed fees royalties and dues and to abide by the terms itions which the Director shall prescribe.
		Signature of Applicants Date
	* D	elete whichever is inapplicable
	Part	iculars of applicant(s):
	(a)	Citizenship
	(b)	If a body corporate or association
	` ,	(i) Certificate of incorporation or registration number
		(ii) Registered or main office (location) Within Region and
		District.
	(c)	Nature of operations (e.g. sawmilling, pitsawing etc).
	(d)	Description of forest produce
	(e)	Number of previous year's licence
	(f)	Previous year's performance:-
		(i) Volume or quantity
		(iii) Outstanding revenue
	(g)	Whether previously convicted for a forest offence or accepted compoundment if
	(6)	yes, brief particulars of such conviction or compoundment
	(h)	Brief statement c. experience in forest exploitation
		PART II
		REFUSAL TO GRANT LICENCE/PERMIT/CERTIFICATE
г		
Го		
Dear	Sir/N	Madam,

Your application for a licence/permit/certificate dated following grounds, that is to say,	has been refused on the
	DIRECTOR OF FORESTRY Name, Signature and Seal
TWELFTH SCHEDULE	
·	Form No. FD 10
(made under regulation 20 (2)	)
LICENCE/PERMIT/CERTIFICA	ATE
THIS Licence/permit/certificate is granted to	
<ol> <li>This licence/permit/certificate is valid until the request of the Grantee and subject to the Directe</li> <li>Payment of a fee being Shillings,</li></ol>	or's approval.
3	
Dated at this day of	
	DIRECTOR OF FORESTRY (Name, Signature and Seal)
THIRTEENTH SCHEDUI	LE
(made under regulation 24 (1))	<u>Form No. FD 11</u>
APPLICATION OF CONCESSION OF WITHIN A FOREST RESERV	
I/We of P. O. Box	
I/We undertake to abide by the terms and conditions, which the	

Description and extent of la	and 			
Purpose of concession				
A sketch of the concession application.	on land drawn	to scale or approxima	ite is attached to this	
Signature of Applicant			Date	
pleted Application Forms keeping, NBC Building, Sam				
PARTICULARS OF APPL	ICANT COMPA	NY		
Name:				
Physical			Address:	
Postal			Address:	
Telephone:				
Fax:				
E-mail:				
Web			Site:	
COMPANY PROFILE				
Date of incorporation: Particulars of Directors of S				
Name of Directors/Shareholders	Nationality	Number and value of Shareholders	Residential Address	
	I			

# MANAGEMENT PLAN

Please attach a separate management plans in terms of project expansion in production, employment, technology etc.

#### LIST OF ATTACHMENTS

- Copy of Memorandum of Association/Charter/Constitution of the Company Copy of Articles of Association of Rules of Conduct of business
- 2.
- Copy of Certificate of Incorporation 3.
- Management Plans

E:	DECLARATION		
	I am aware that the information given hereinabove constitutes the basis upon which the Agent may grant the renewal of a Licence for Concessions. Any Information which proves to be false and contrary to what have been declared hereinabove is consequently an offence under the Forest Act, 2002.		
	1	who is	
	(Name of Signatory)	(Title of Signatory)	
	best of my knowledge and belief, all the true and correct. I, therefore, und	the Applicant, hereby declare that to the particulars furnished in this application are dertake to indemnify the Agent for any and any information that may, in the future,	
Date: Signa	ture		

# FOURTEENTH SCHEDULE

(made under regulation 29 (1))

# SCALE OF FEES FOR PERMIT OR LICENCE OR CERTIFICATE FOR FELLING TREES AND COLLECTING FOREST PRODUCE

# PART I

# CLASSIFICATION OF TREE SPECIES

A. Classification of tree species from nor plantations forests.

Class	Botanical Name	Trade or Vernacular Name
I	Dalbergia melanoxylon	- E.A. Blackwood, inpingo, mugernbe
	Diospyros ebenum/mespiliformis	- Ebony, mgiriti, msindi, mnumbuhi, mkulvi.
	Combretum stuhlmanii	- Mperamwitu, mguruwe, Mkwaya.
	Milicia excelsa	- Mvule, mkongola, Iroko
	Pterocarpus all spp.	- Mninga, mkula, mngubi, mtumbati mtoni, mkurungu, mninga maji.
	Beilschimeidia kweo	- Mfimbo, mkweo, mkanta
	Osyris santallum	- Msandali, Sandal wood
	Millettia stulhmanii	- Pangapanga, mpande
	Brachylaena huillensis	- Muhuhu, mhugwe, mkarambati
	Olea all spp.	- Loliondo, mchiyo, mshisho, brown olive, mzira, E.A olive, mtagala, mwalambo, mkimba-kubwa.
	Swartzia madagasearensis	- Paurosa, Kasanda, msekeseke
	Khaya anthotheca	- Mkangazi, mwamiovu

111	i n n n	1 41: : : :
Н	Breonadia salicina	- Adina, mgusia, mdogowe, mgwina.
	Afzelia quanzensis	- Afzelia, mkora, mkongo, mafu, mfuru, mbambakofi
	Cephalosphaera usambarensis	- Mtambara, mtambaa
	Entandophragma all spp.	- Mrie, mongo, muwondo, mbokoboko, mkalikali
	Fagaropsis angolensis	- Mtua, mkunguni, mtongoti
	Hagenia abyssinica	- Hagenia, mwanga, luziluzi
	Juniperus procera	- Pencil cedar, mtarakwa, mwangati
Class	Botanical Name	Trade or Vernacular Name
	Markhamia all spp.	- Mtalawanda
	Newtonia all spp.	- Mshashita, mdadauka, mkufi mpunga, Newtonia
	Ocotea usamberensis	- Camphorwood, mkulo, mseri, muheti, maasi
	Mangrove all spp.	- Mikoko
	Oxytenanthera abyssinica	- Mwanzi, mlanzi
	Parinari curatellifolia	- Mubula, mule, msabula, msawula
	Podocarpus all spp.	- Podo, mse, msisimu, mtokosi
	Syzygium cummnii	- Mzambarau, mvengi
	Vitex Kenyansis	- Mfudo
	Berchamia discolor	- Bird plum, Mgandu, Mnago, mkuni, okoo nyabumbu,
	Pericorpsis angolensis	- Mbanga, muwanga, afromosia
	Minusopsis kumei	- Mubulu, Mgoma,
	Chrysophyllum spp.	- Mberimberi, mfu mulembelembe
	Burkea africana	- Bukea, Mkarati, Magando, Msangala
	Brachystegia all spp	- Mtundu, Myombo, Mkuti
	Julbernadia all spp.	- Muba, Mvuva, Mtondo, Mtondoro, mwangati, msima, mtundu, mgombo, muwa, mpanate,
	Balphia kirkii	- Balphia, Mkuruti, Mkuranga.
	Albizia all spp.	- Mfurangi, Mtanga, Mdurasi, Mvimbatura, mukingu, Omurera, Mshai, Mboromo, Mhenge
	Erythrophleum guineense	- Bangawanga, Mjeringwe
	Spirostachys africana	- Misanda, mwavi, mbaraka, mkarati, mkola
	Ambygonocarpus angolensis	- Msaraka, muharaka, mwaraka
	Sterculia all spp.	- Mhozya, inluze, mgude, mfune, mkweanyani, mkweranyani, mguwa, mkwelangedere, moza, mbalamwezi, mperamusi, mpalamusi, mwingirangidengi, mkungulanga
	Acacia nigrescens	- mkambala, mtambara, muhama

	Filcalhoa laurifolia Casipourea malosana Lovoa brownii/swynnertonii	- E.A Mulberry, kumbu, mkuzafunta - Filcalhoa, iseta, mkuta - Pillar wood, ndiri, msadora
	·	- Pillar wood, ndiri, msadora
	Lovos brownii/swynnertonii	
	Lovoa orowini/swyniicitoini	- Nkoba, (Uganda Walnut), msau, mukusu, Kilimanjaro mahogany
F	Cordyla africana	- Codyla, mroma, mgwata
	Maesopsis eminii	- Musizi, muhumula, musika
-	Cordia africana	- Mukumari, mringaringa, msingati
	Erkebergia ruppeliana	- Erkebegia, msisi, tiwe, msimbi, ol mikumo
Class	Botanical Name	Trade or Vernacular Name
IV	Xymalos monospora	- Mburumo, dimu, mkalikisumu, lemonwood
	Fauzea all spp.	- Mifuka, msisi, lisega
	Rapanea rhododendroides	- Rapanea, mlimangombe, mwasa, mshiwizo, kidongashawa
	Pteleopsis myrtifolia	- Mwindi, mnepa, mparu, mgofu, makwenzi
t	Bombax rhodognaphalon	- Msufi-mwitu, mfume
	Fagara amaniensis	- Amani satin wood, mfarakumbi, mfuakumbi
ν	All tree species not listed in the pro	ceding classes i.e. others

- B: Classification of tree species from forest plantations.
- (i) All Softwood plantation species except Juniperous procera.

Class	Botanical Name	Trade Names	
	Pinus all species	Pines	
	Cupressus all species	Cypress	
	Araucaria all speciess	Araucaria	
	All other coniferous	Conifers	
	species not listed		
	above.		

# (ii) All Hardwood plantation species:-

Class	Botanical Name	Trade Names
I	(i) Tectona grandis	Teak, mtiki, msaji
	(ii) Cinamomum camphora	Japanese camphor
H	Eucalyptus all species	Eucalyptus, mkaratusi, mlingoti
III	All other hardwood plantation species not listed above	

# **PARTII**

# FEES, TREE VOLUME TABLES AND TARIFF TABLES

A: Fees payable on non-plantation forest produce and where the produce is cut and removed by the licensee, as in Part I.

#### Item 1: Logs

1

Classes	Fees per cubic metre (True measure over bark)
Class I	70,000.00 Shs.
Class II	60,000.00 Shs.
Class III	50,000.00 Shs.
Class IV	40,000.00 Shs.
Class V	30,000.00 Shs.

Item 2: Poles of Non-Plantation Forest Species.

- (a) 5 cm but not more than 10 cm diameter at butt 200 Shs each.
- (b) Over 10 cm but not more that 20 cm diameter at butt 250 Shs each.

#### Item 3: Withies:

A stem or branch under 5 cm diameter at butt are withies and shall be sold at 1,500.00 Shs. per load of 30 withies.

#### Item 4: Firewood:

Licenses for firewood will be issued either by quantity or by time according to circumstances.

- (a) Quantity License
- Shs 3,000.00 per stacked cubic metre.
- (b) Time License
- To enter the forest reserve and remove one head load (28 Kgs) of dead fallen wood daily Shs. 1000.00 for a calendar month or part thereof.

#### Item 5: Charcoal

Fees for charcoal shall be charged at the rate of Shs. 600.00 per bag, for which purpose a bag will be considered as 28 Kg.

#### Item 6: Fibres

Fees for Fibres and Raffia (Umondo, Ukindu) will be charged as follows:

- (i) Time license Shs. 25,000.00 per calendar month or part thereof.
- (ii) Quantity license Shs. 150.00 per Kg or part thereof.

#### Item 7: Tree Seed and Seedlings

- (a) Tree Seed:
  - Tree Seeds will be sold according to the Tanzania Tree Seed Agency catalogue issued by the Tanzania Tree Seed Agency, Morogoro.
- (b) Christmas Trees:
  - Fee for Christmas tree shall be Shs. 500.00 per running metre or part thereof.
- (c) Seedlings:
  - Fees for seedlings shall be Shs. 100.00 for non-omamental bare rooted, Shs. 200.00 non ornamental potted and Shs. 500.00 for ornamental seedlings.

# Item 8: Mangrove produce

- (a) All mangrove trees of over 20 cm diameter over-back at 1.3 meters above ground shall be considered as logs and fees will be 50,000/= per m3 or as in item 1, class II.
- (b) Poles

#### Fees shall be as follows:

Diameter Class	Diameter at butt	Rate per score	Rate per pole
Class 1	15-20 cm	6,000.00	300.00
Class II	10-14.9 cm	4,000.00	200.00
Class III	5-9.9 cm	2,000.00	100.00
Class IV	Below 5 cm	1,000.00	50.00

#### Item 9: Bark

#### (a) Wattle bark for tannin

- (i) Bark Shs. 2,000/= per stacked cubic meter of bark.
- (ii) Price of wood left after debarking shall be sold at the rates of firewood or poles as in items 2 and 4 above.
- (b) Other barks including medicinal barks. The rate shall be Shs. 500/= per Kg dried.

#### Item 10: Bamboo

- (a) For bamboo under 5cm diameter at butt, the fee rate shall be Shs. 100.00 per piece.
- (b) For bamboo over 5cm diameter at butt, the fee rate shall be Shs. 150.00 per piece.

#### Item 11: Gums and resins

Fees rate shall be shs. 1,000.00 per kg.

# Item 12: Medicinal plants

Fees shall be:

- (a) Roots shs. 400.00 per kg. dried
- (b) Leaves shs. 200.00 per kg. dried

Item 13: Processed products fees shall be;

Products/produce	Fees rates
Mpingo carvings	shs. 546.00/Kg
Msandali	shs. 130,000/tonne
Door shutter, cupboards, table (coffee	shs. 5,000.00
and office), set of sofa any size, oxen cart	
Door and window frame	shs. 3,000.00 per piece
Chair, stool and other small items	shs.500.00 per piece

#### B: Fees payable on plantation forest produce when felled and removed by licence.

# Item 1. All softwood plantation species except Juniperus procera

#### (Volumes according to tarrif tables)

1	11	III	IV	V	VI
10cm	11-20cm	21-25cm	26-30cm	31-35cm	>35cm
o be sold	1,500/=	2,000/=	3.000/=	3.500/=	4,500/=
s .		·	,		,,= = =:
s	be sold	o be sold 1,500/=	be sold 1.500/= 2,000/=	b be sold 1.500/= 2,000/= 3,000/=	b be sold   1.500/=   2,000/=   3,000/=   3,500/=

Item 2. Juniperus procera (all sizes) Tshs. 50,000/= per cubic meter.

Item 3, All hardwood plantation species except Eucalypts.

Class	1	II	Ш	IV	V
Diam, Class at	<10cm	11-20cm	21-30cm	31-35cm	>35cm
BH in cm					
Fees/m3 except	To be sold	4,000/=	6,000/=	10,000/=	12,000/=
Teak	as				
	firewood				
Fees/m3 Teak	To be sold	30,000/=	50,000/=	60,000/=	80,000/-
	as				
	firewood				

Item 4. Eucalypts. all species

Class	_ ا	11	Ш	IV
Diam. Class at	<10cm	11-20cm	21-30cm	>30cm
BH in cm	_			
Fees/m3	To be sold as	To be sold as	8,000/=	10,000/=
	firewood	poles		

#### Item 5. Poles from hardwood plantations

- (i) All hardwood plantation species.
  - For poles less than 10cm DBH over-bark fees shall be Shs. 500.00 per running metre.
- (ii) All Eucalyptus species classified as poles, fees shall be Shs. 300.00 per running metre.

#### Item 6. Firewood from plantations

#### Quantity licence will be:

- (i) Hardwood plantation species-Shs. 2,000.00 per cubic meter.
- (ii) Softwood plantation species- Shs. 1,000.00 per stacked cubic meter.

#### C: Other fees payable on services provided in forest reserves

Item 1: Licence to establish and operate other businesses in forest reserves and plantations.

- (i) Sawmill capacity of up to 5,000 m³/yr shall be sh. 100,000/- per unit as establishment fee and 50,000/= per year as operation fee.
- (ii) Sawmill capacity of between 5,001 10,000 m<sup>3</sup>/yr shall be shs. 150,000 per unit as establishment fee and 75,000/= per year as operation fee.
- (iii) Sawmill capacity of more than 10,000 m<sup>3</sup>/yr shall be 200,000/= per unit establishment fee and 100,000/= per year as operation fee.
- (iv) Installation of telecommunication facilities, mineral water extraction facilities, hydropower and large scale irrigation scheme shall be Shs. 3,000,000/- as establishment fee and forest reserve management fee shall be Shs. 200,000/= per year.
- (v) Piers and landings in forest reserves shall be shs. 100,000/= per year.
- (vi) To make solar salt pans in the mangrove forest reserves shall be shs. 100,000/= as forest reserve management fee.
- (vii) To operate solar salt pan of 2.5 hectares or less in the mangrove forest shall be shs. 50,000/= per year per hectare and shs. 5,000/= per boiling pan per month.
- (viii) To undertake any other commercial business such as kiosk, shops, hotels etc in a forest reserve shall be shs. 50,000/= per year per unit.
- (ix) To install billboards in forest reserve shall be shs. 200,000.00 as establishment fee and shs. 100,000/= per year as forest reserve management fee.
- Application fees for any services to be rendered shall be shs 5,000 per form.

Item 2: Horse riding, research and orienteering in forest reserve and plantations.

- (i) Residents Shs. 3,000/= per head per day.
- (ii) Non residents USD 5 per head per day.

#### Item 3: Grading and export certificates fees.

#### I. Grading/Inspection fees

#### (a) For commercial consignments

- Consignment whose value exceeds USD 300 will be consider commercial consignment
- Grading fee for commercial consignments such as timber and forest products for export shall be shs. 50,000/= for a consign not exceeding 20 m<sup>3</sup>.
- Fees for inspection of carvings/handcrafts, tannin, gum, sandal v products and other forest products for export shall be shs. 50,0 for a consigniment not exceeding 20 tonnes.

#### (b) For Non commercial consignments whose value is less or equal to USD 300

- Grading fees for timber and other forest products for export as personal effects and sample shall be shs. 20,000/= per consignment.
- Fee for Inspection of carvings/handcrafts, tannin, gum, sandal w products and other forest products for export shall be shs 20,000/= consignment.

#### II. Export certificate fees.

- (a) Export certificate fee for commercial consignment shall be shs. 50,000/
- (b) Export certificate fee for non-commercial consignments shall be 20,000/= per consignment.

#### Item 4: Licences

- A. Licence to cultivate in the plantation Fee rate shall be shs. 10,000/= per ha, per season.
- B. Licence to reside in the forest reserve (plantation). Fee rate shall be shs. 3,000.00 per household per year.

Item 5: Fees for registration of forest produce dealers and traders for each financial year.

Category	Fce rates
Trees, timber, logs, poles	Shs. 100,000.00
Sawmill, Chipboard, Hardboard,	Shs. 200,000.00
Plywood, Paper & Pulp-mill	
Exporters of forest products	Shs. 200,000.00
Charcoal & Firewood	Shs. 50,000.00
Furniture mart and Wood works	Shs. 50,000.00
Other forest products/produce dealers	Shs. 20,000.00

# Item 6: Forest road service fees (Vehicles not covered under item 7)

# Users of forest roads shall be charged fees as follows:

Capacity of vehicle	Fee rate per entry
Less than 1 ton	Shs. 300.00
2 - 3 tons	Shs. 600.00
4 - 5 tons	Shs. 1,200.00
6 - 10 tons	Shs. 1,500.00
>10 tons	Shs. 2,000.00

Item 6: LMDA (Logging Miscellaneous Account) charges in plantation forests.

(i) Road fee shall be

Shs. 1,700.00 per m3 of logs.

(ii) Silvicultural fee shall be

Shs. 1,700.00 per m3 of logs.

#### PART III

# RECOVERY RATIOS OF FOREST PRODUCTS.

Item	Produce	Recovery rate
1.	Round logs	70%
2.	Sleepers/square logs	60%
3.	Sawn timber, flooring strips and sandalwood chips	30%
4.	Mpingo products – carvings, clarinet sets	10%

#### FIFTEENTH SCHEDULE

Form No. FD. 12

(made under regulation 33(2))

### FORM OF APPLICATION OF A PERMIT FOR PROSPECTING EXPLORING OR MINING IN FOREST RESERVE

#### PART I

# APPLICATION FOR PERMIT

/we of P. O. Box hereby apply for a permit to prospect/explore/min			
in the forest reserve within	District(s).		
(a) Name of mineral(s)			
(b) Forest where ntirieral(s) is/are to be prosp	pected for/explored/mined		
,			
Signature of Applicant	Date		
Application fees paid			
TShs against ERV receipt No	Dated		

#### **PART II**

#### REFUSAL TO GRANT A PROSPECTING/EXPLORING/MINING PERMIT

	of P. O. Box
	on permit to prospect/explore/mine in the Forest Reserve within the c(s) has been rejected on the following grounds namely,
•	nature of issuing officer
	·
	SIXTEENTH SCHEDULE
	Com No CD 12
	(made under regulation \$3 (2))
	PERMIT FOR PROSPECTING OR EXPLORING OR MINING IN FOREST RESERVE (Not transferable)
THIS PERMIT to prescribed overl	is granted to
Fees paid TShs	thisday of
DIRECTOR OF (Name, signatur	
CONDITIONS:	taking all such necessary precaution to prevent the occurrence or spread of fire
(b)	within or adjacent to the permitted area;
(0)	taking all reasonable precautions not to unnecessarily destroy or damage vegetation on the permit; and
(c)	rehabilitating all areas cleared, explored or otherwise disturbed.

# REHABILITATION MAY INCLUDE:

- (a) backfilling all holes, trenches or made safe;
- (b) contouring to the original landform;
- (c) re-vegetation with seed;
- (d) paying royalty at current rate for any forest produce obtained, damaged in connection with the operations;
- (e) all waste materials, rubbish, plastics removed from the permit area prior to or at the termination of the operations; and
- (f) prior to cessation of the exploration/prospecting/mining activities in the permit are notifying the District Forestry officer and arranging an inspection as required. Not establishing any camp and base works unless received prior approval of the district Forestry officer.

# SEVENTEENTH SCHEDULE

# Form No. FD14

(made under regulation 35 (3))

# ENTRY FORM PERMIT FOR PERSONS, ANIMALS OR VEHICLES INTO FOREST RESERVE (Not transferable)

This permit is granted to of P. O. Box to enter in the forest reserve at (entry point) within District for the following
Fees amounting to TShs have been paid against ERV receipt No dated Station
This permit is valid for (time) Hrs/days/months/years from the time date of issue or payment of the prescribed fee/charges to the Authorized Officer.
Authorizing Officer (Name and signature, title and stamp/seal)
CONDITIONS:  (a) the Authorized Officer may revoke the permit at any time in the event of breach of the
terms and conditions of the permit;
<ul> <li>(b) the period of the permit shall not be extended, and upon expiry new application shall be made if required;</li> </ul>
<ul> <li>(c) the permit is only valid for the area demarcated by the authorized officer; and</li> <li>(d) the permit shall be surrendered by permit holder to the issuing officers on expiry date of the permit.</li> </ul>
EIGHTEENTH SCHEDULE
Form No. FD 15 (made under regulation 38 (1))
APPLICATION FORM FOR COLLECTING, REMOVING ETC. WILD PLANTS, PARTS OF PLANTS AND SEEDS FROM A FOREST RESERVE
PART I
APPLICATION FOR PERMIT
I/We of P. O. Box hereby apply for a permit to
collect, pick, store or remove wild plant (s), parts of plant or seeds from the Forest
Reserve withinDistrict the particulars of which are stated hereunder:
(a) Name of wild plant
(b) The Forest site where the wild plant was obtained
(c) Category and quantity of wild plant.

(d) Conditions and season of removal	
(e) Purpose of obtaining wild plant	
(f) Place where wild plant will be used	
(g) Whether the taking of the wild plants, parts of plant or seeds is in accordance	vith
management plan of Forest Reserve	
I/We undertake to comply with other terms and conditions which the Issuing Officer	may
prescribe.	
Signature of Applicant Date	
Application fees paid Shs against ERV Receipt No Dated	
PART II	
REFUSAL TO GRANT PERMIT	
To:	
Dear Sir/Madam,	
Your application for a permit to collect/remove wild plant(s) at wi	thin
the Forest Reserve has been rejected on the following grounds:	
Dated at Day of	
DIRECTOR OF FORESTRY	
(Name, Signature and Stamp)	
NINTEENTH SCHEDULE	
(made under regulation 38( (1)	16
PERMIT FOR COLLECTING, REMOVING ETC. WILD PLANTS, PARTS QF PLANTS AND SEEDS FROM A FOREST RESERVE	
(Not transferable)	
Station	
THIS LICENCE is granted to ("licensee") to collect remove very plants of the type description and quantity shown herein under subject to the condition prescribed hereunder:-	
(a) Name of wild plant	

	eason or period for collection
at	thisday of
ation f	ees paid Shs against ERV Receipt No Dated
	OF FORESTRY ture and Stamp)
	TWENTIETH SCHEDULE
	(made under regulation 40 (4))
	APPLICATION FOR REGISTRATION OF PROPERTY MARK
roperty	
<ol> <li>Ac</li> <li>Lo</li> <li>Fo</li> </ol>	me dress cality of operations m of proposed property mark cality mark
iture of A	pplicant Date
	es paid Shs against ERV Receipt No Dated
	es paid Shs against ERV Receipt No Dated
	cs paid Shs against ERV Receipt No Dated  TWENTY FIRST SCHEDULE  Form No. FD 18
Certification for	cs paid Shs against ERV Receipt No Dated  TWENTY FIRST SCHEDULE  (made under regulation 40 (4))  CERTIFICATE OF REGISTRATION
Certification of the	cs paid Shs
Certification of the company of the correction o	cs paid Shs

# TWENTY SECOND SCHEDULE

Form No. FD.19

(Made under regulation 45)

# PERMIT TO USE FOREST ROAD OR TRACK (Not transferable)

•	S/No
This permit is issued to	District Particulars of int of entry
Other particulars	
This permit is valid up to (date) at checkpoint/exit at	
Name and Signature of Issuing Officer	Date
Authorised Officer At Exit/Check Point Station	Date
(Name, Signature and Stamp)	V. Danada Na
Application fees paid Shs against ER	v Receipt No Dated
TWENTY THIRD SCH	HEDULE
———— (Made under regulatio	Form No. FD. 20 n 49 (3))
FORM OF APPLICATION OF	F FIRE PERMIT
PART I Application for Pe	ERMIT
l/Weof P. O. B hereby apply for a permit to light, use or maintain a Forest Reserve for the following purposes:	a fire at in the
I/we undertake to abide by the provisions of the which the authorized officer may impose.	
Signature of Applicant(s)	 Date
Application fees paid TShs ERV	Receipt No Dated

# PART II Refusal to Grant Permit

To:
Dear Sir/Madam,
Your application for a permit to light, use or maintain a fire at
Dated at Day of
Director of Forestry (Name, Signature and Stamp)
TWENTY FOURTH SCHEDULE
Form No. FD. 2
(Made under regulation 49 (3))
FIRE PERMIT
This fire Permit is issued to the applicant to light, use, maintain a fire at in the
(a) (b)
Issuing Officer Date (Name, Signature and Stamp)

TWENTY FIFTH SCHEDULE

Permit fees paid TShs...... ERV Receipt No. ....... Dated ......

Station .....

(Made under regulation 50 (2))

HARDWOOD TIMBER GRADING

# PART I Introduction

- 1. The timber of all hardwood species shall be graded under the provision of the schedule.
- 2. All timber for grading will be classified according to its dimensions under on of the following definitions:
  - (1) Boards
  - (2) Planks
  - (3) Strips
  - (4) Shorts
  - (5) Scantlings
  - (6) All other timber (see Part II Section 5)
- 3. Standard Grading specifications, for each of the categories in section 2 will be und in Part II of this Schedule, and all timber must comply with one of the grades set out in the appropriate grading specification before it can be considered graded timber.
- 4. Unless the specifications state otherwise, all grading will be done on the worse face of the timber.
- 5. No undersize is allowed, unless the buyer's specification state otherwise, in which case the timber will be graded as fourth or specified grade.
- 6. Specified provision is made for sapwood and spring in the description of each grade.
- 7. In certain of the specifications in Part II of this Schedule reference is made to "Standard Defects" they are defined in the table below:

#### TABLE OF STANDARD DEFECTS

No.	Defect	Value
1	One sound knot 15mm to 30mm in diameter or equivalent.	1
2	One sound knot over 30mm and up to 60mm in diameter or equivalent.	2
3	One sound knot over 60 mm and up to 90 mm in diameter or equivalent.	3
4	Two sound knots less than 15mm in diameter or equivalent.	1
5	Three sound knots less than 15 mm in diameter or equivalent.	2
6	One or more pin holes or shot holes in a group not exceeding	i
	30 mm in diameter.	
7	One end split, or splits at each end, not exceeding 275 mm	1
	in aggregated total length per square meter of the face measure	
	of the piece, each split opening out for not more than 1 mm	
	for each 10mm of the length of the splits.	
8	One end split, or splits at each end, not exceeding 275 mm	2
	in aggregate length per square meter of the face measure of	

- the piece, each split opening out for more than 1 mm, but less than 2 mm to each 10mm of length of the splits.
- 15mm of spring (free side bend) shall be admitted in pieces over 3 metres and up to 4 metres long, and 40mm pieces over 4 metres and up to 5 metres long. Each additional 15mm in any piece shall be considered as equal to 1 defect. Not more than two such defects shall be admitted in any piece.
- 8. All sawn timber shall be well and evenly cut, full to thickness and width and have parallel edges.
  - 9. The following tolerances in thickness will be admitted:
  - (1) Boards and planks-

First and Second Grade:

- (a) 1.5mm oversize on pieces up to 25mm in thickness;
- (b) 3mm oversize pieces over 25mm and up to 50mm in thickness;
- (c) 6mm oversize on pieces over 50mm in thickness.

Third Grade:

- (a) Boards -3mm oversize; and
- (b) Planks 6 mm oversize.
- (2) Strips, including Flooring-

As for First Grade boards.

- (3) Shorts and Scantlings-
- (a) Pieces up to 0 mm in thickness as for first grade boards; and
- (b) Pieces over 50 mm in thickness as for first grade planks.

#### PART II

### 1.0 GRADE SPECIFICATIONS

There shall be four grades:

First or prime grade;

Second or selected grade;

Third or standard grade; and

Fourth or specified grade.

- 1.1 First or Prime Grade:
  - (1) Widths 150mm and wider.
  - (2) Lengths 2 metres and longer.
  - (3) Defects permitted:
    - (a) Pieces containing less than 0.76 square metres face measure are to be free from any defects;
    - (b) Pieces containing over 1.5 square metres face measure may admit 3 standard defects.
  - (4) Sapwood, whether bright or not, shall not be admitted.
  - (5) Pieces shall be generally straight grained.
- 1,2 Second or selected Grade:
  - (1) Widths, lengths as for First or Prime Grade see 1.1,

#### (2) Defects admitted:

- (a) Pieces containing less than 0.75 to 1 square metre tace measure snall admit one standard defect;
- (b) Pieces containing 0.75 to 1 square metre face measure shall adrant room standard defects of which not more than two shall be due to splits and not more than two to spring;
- (c) Pieces containing 1.0 to 1.5 square metres face measure shall admit six standard defects of which not more than two shall be due to splits and not more than two due to spring;
- (d) Pieces containing over 1.5 square metres face measure shall admit eight standard defects of which not more than two shall be due to splits and not more than two due to spring:
- (e) Bright sapwood not exceeding one sixth of the width of the worse face.

#### 1.3 Third or Standard Grade:

- (1) Widths and lengths as for first or prime grade and 14
- (2) The following defects shall be admitted:
  - (a) Sound Knots less than 50mm in diameter to the extent of one abound knot to every 0.1 square metres of face measure on the graded face:
  - (b) End split not exceeding in aggregate length 1mm for each 15mm length of piece;
  - (c) Bright sapwood not exceeding one sixth of the width of either face:
  - (d) Spring to the extent of 15mm in pieces up to 3 metres, 20mm in pieces 3-4 metres long and 35mm in pieces more than 4 metres long:
  - (e) Borer holes, pin holes or shot holes to the extent of two holes to every 0.1 square metre of face measure. Large borer holes not admitted

#### 2.0 STRIPS INCLUDING FLOORING

#### 2.1

- (1) Scope for grading narrow widths, usually to be used as flooring
- (2) Grades first or prime and second or select.
- (3) Widths as specified, but less than 150 mm.
- (4) Lengths as specified.
- (5) Grading requirements applicable to both grades of strips.
  - (a) Spring shall be allowed only to the extent of 15mm in lengths of 2.5 metres and over:
  - (b) No spring allowed in lengths of less than 2.5 metres.

# 2.2 First or Prime grade:

- (1) One face and both edges shall be free of defect.
- (2) The worse face shall admit slight defect not caused by splits.
- (3) Sapwood is not permitted.

# 2.3 Second or Select grade:

- (1) The better face shall be free from defect.
- (2) Edges shall be free from delect other than bright sapwood.
- (3) On the worse face, bright sapwood and sound knots shall be admitted

- 3.0 SHORTS (EXCLUDING FLOORING BLOCKS OR STRIPS)
- 3.1 Scope for grading short lengths (i.e. lengths less than 2 metres) of timber of any width, other than flooring, which should be graded under section 2 above:
  - (1) Grades -First or Prime and second or select.
  - (2) All lengths must be full i.e. at least 15mm longer than specified.

#### 3.2 First or Prime Grade:

(1) Prime is a clear grade, i.e all short length strips, boards or planks shall have both faces free from any defect, and squares and scantlings shall have all four faces free from any defect.

#### 2011 hold or Select Grade:

- (1) All short length strips, boards or planks shall have the better face free from all defects. Squares and scantlings shall have two adjacent faces free from all defects.
- (2) The worse face (in strips, boards and planks) or the remaining faces (in squares and scantlings) may contain bright sapwood, provided that this does not exceed one sixth of the width of the face on which is occurs, and sound knots not exceeding 15mm in diameter, but shall be free of any other defect.

#### 4.0 Scanifing

4.1

- (a) Scope for grading scantlings. Lenghts under 2 metres shall be graded as shorts.
- (b) General in grading scantlings all four sides should be examined all scantlings shall be free from shakes, from obvious compression failures and brittle heart and any other defects which in the opinion of the grader would materially impair the strength of the scantling.
- (c) Knots no sound knot shall exceed one-third of the width of the face or edge on which it occurs, nor shall knots be so grouped as to materially impair strength of the scantling.

#### First or prime grade:

- (1) Slope of grain not exceed 1 in 16.
- (2) Spring not to exceed 10mm in 3 metres.
- (3) To be free from any other defect.
- (4) Heart not admitted

# (1) Slope of grain not to exceed 1 in 12.

- (2) Spring not to exceed 20 mm in 3 metres.
- (3) Knots not to exceed one sixth of the width of any face or edge, and not to exceed 1 in a linear metre.
- (4) Sapwood not to exceed one sixty of the width of any face or edge, and to be confined to one corner
- (5) Heart admitted it sound and well-boxed.

#### 4.4 Thir 1 or Standard Grade:

(1) Slope of grain not to exceed 1 to 12

- (3) Knots not to exceed one-third of the width of any face or edge, not to exceed 1 in a linear metre.
- (4) Sapwood not to exceed one-quarter of the width of any face or edge.
- (5) End splits allowed to an aggregate of 150mm each end.
- (6) Heart admitted if sound and well-boxed.

#### 5.0 OTHER GRADE TIMBER

- 5.1 The specifications listed above are obviously not all embracing. It is therefore provided that timber not meeting any of the standard specifications may neverthless be regarded as graded timber provided that:
  - (1) It has been graded by an authorized grader in the manner prescribed by law.
  - (2) It is shipping dry or drier (except where green timber is specified by the buyer).
  - (3) It is free from live borer, rot and decay, brittle heart and compression failures and unsound or loose knots.
  - (4) Distortion does not exceed the following limits;
    - (a) Bow 25mm in 3 metres
    - (b) Cup 1mm in 50mm
    - (c) Twist 3 1/2 degrees
    - (d) Spring 25mm in 3 metres

Such timber will be described in the grading certificates as Fourth or Specified Grade

#### PART III

#### GRADE MARKS

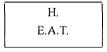
(1) First or Prime Grade - a circle containing the letters H.E.A.T. arranged thus:



2. Second or selected Grade - A triangle containing the letters H.E.A.T arranged thus:



3. Third or Standard Grade - a square containing the letters H.E.A.T arranged thus:



4. Fourth or Specified grade - the letters H.S.E.A.T. arranged thus:

H S E.A.T

#### TWENTY SIXTH SCHEDULE

# (Made under regulation 50 (2)) SOFTWOOD TIMBER GRADING PART I

- The timber of all softwood species shall be graded under the provision of this schedule.
- 2. There shall be six strength grades and five appearance grades.
- 3. Any species of softwood may be graded either in the strength grades or in the appearance grades.
- 4. The strength grades shall be:
  - (a) First grade (defined in Part III of this Schedule);
  - (b) Second grade (defined in Part III of this Schedule);
  - (c) Third grade(defined in Part III of this Schedule);
  - (d) Fourth grade(defined in Part III of this Schedule);
  - (e) Unsorted grade -this grade shall consist of 50% Second grade and better and 50% third grade; and
  - (f) Specified grade- this grade shall provide for special requirements in cases where an exception specification has been agreed between buyer and seller and shall include round timber.

### 5. The appearance grades shall be:

- (a) First grade (defined in Part IV of this Schedule);
- (b) Second grade (defined in Part IV of this Schedule)
- (c) Third grade (defined in Part IV of this Schedule);
- (d) Fourth grade (defined in Part IV of this Schedule);
- (e) Unsorted grade -this grade shall consist of 50% Second grade and better and 50% third grade; and
- Specified grade- this grade shall provide for special requirements in cases where an exceptional specification has been agreed between buyer and seller and shall include round timber.
- (1) Timber to be graded under the strength grades shall be graded on the worse face.
- (2) Timber to be graded under the appearance rules shall be graded on the best face.
- 7. The size of an edge knot shall be measure:
  - (a) where the knot touches the arris, as the width between the arris and a line touching the knot parallel to the arris; or
  - (b) where the knot does not touch the arris, as the width between a line touching the knot and one parallel to the arris.
- 8. The size of a margin knot shall be measured in the same manner as an edge knot.
- 9. The size of a centre knot shall be the mean to its greatest and least diameters.
- 10. A splay knot shall be measured as an edge knot only where it extends more than a quarter of the width of the piece.
- 11. The size of a knot cluster shall be taken as the sum of the diameters of individual knots measured as centre knots.
- 12. The amount of wane shall be expressed as a fraction of the width of the surfaces on which it occurs.

- 13. Slope of grain shall be measured over a distance of not less than twice the width of the piece, disregarding slight local deviations; it shall be measured as the tangent of the angle of the inclination of the fibres to the long axis of the piece.
- 14. The size of resin pockets and bark pockets shall be limited to the width specified, the lengths shall be expressed as the sum of the lengths of all pockets in metres to the length of the piece in feet.
- 15. The size of checks and splits shall be limited to the lengths specified.
- 16. The amount of bow shall be measured over a length of 3meters and shall be expressed as the maximum deviation of the face from a straight line joining two points 3 metres apart.
- 17. The amount of spring shall be measured over a length of 3 metres and expressed as maximum deviation of the edge from a straight line joining two points 3 metres apart.
- 18. The amount of twist shall be measured over a length of 3 metres and shall be expressed in degrees.
- 19. The amount of cup shall be measured over a width of 150 mm and shall be expressed as mm per 150 mm.

# PART II SPECIAL CONDITIONS

"Live borer" shall be prohibited in all grades

"Rot" shall be prohibited in all grades except in the case of unsound knots.

PART III STRENGHT GRADES - FIRST, SECOND, THIRD AND FOURTH

Defect and Characteristic	First Grade	Second Grade	Third Grade	Fourth Grade	
Knots-	Sound knots only	Sound knots only	Unsound knots included	Unsound knots included	
Edge Margin	1/4 thickness 1/8 width	1/2 thickness	3/4 thickness 1/3 thickness	Unrestricted Unrestricted	
Center	1/6 width	1/4 width	1/2 width	Unrestricted	
Splay	1/4 width	1/3 width	1/2 width	Unrestricted	
Cluster	1/4 width	1/3 width	1/2 width	Unrestricted	
(in total)		1/3 width		Unrestricted	
Rot-	Not allowed Except in unsound knots				
Wane Edge	Not allowed	1/8 thickness	1/4 thickness	1/2 thickness	
Face	Not allowed	1/2 width	1/6 width	1/3 width	
Length	Not allowed	1/4 length	<sup>1</sup> / <sub>3</sub> length	Unrestricted	
Slope of Grain	1:14	1:8	Unrestricted	Unrestricted	
Resin Pockets and Bark-	Not allowed	Not more than 6mm wide Not more than 40 mm in length per metre length of piece	Not more than 6mm wide Not more than 80mm in length per metre length of piece	Unrestricted	

Checks and splits	Total length not exceeding 150 mm	Total length not exceeding 225mm	Total length not exceeding 300mm	Unrestricted
Bow-	6mm in 1mm of length	13mm in 3m of length	25mm in 3m of length	Unrestricted
Spring-	6mm in 1m of length	13mm in 3m of length	25mm in 3m of length	Unrestricted
Twist	3 degrees in 3m of length	6 degrees in 3m of length	9 degrees in 10 of length	Unrestricted
Cup-	1.5 mm in 150 mm of width	3.3mm in 150 of width	3.3mm in 150 of width	
Pith-	Not allowed	Not allowed	50mm in 3m	Unrestricted
Bead borer Holes-	Not allowed	Not allowed		Unrestricted
Undersize (Unseasoned	Not allowed	Not allowed	Not allowed	Not allowed
timber)	Not allowed	Not allowed	Must not exceed 3mm in thickness	Must not exceed 3mm
Undersize (seasoned timber)			nor 3mm in width	in thickness nor 10mm in width
	All timber to be sawn	oversize by 1.5mm pe	er 25mm thickness di	nd width
Oversize (unseasoned timber)	Not more than 3 mm in	a this lungar and dat mu	and those Course in suit	141.
Oversize (seasoned timber)	NOU MOLE THAN 3 MM II	i unckness and dot m	ore main onnin in Wic	1111

# PART IV APPEARANCE GRADES - FIRST, SECOND AND THIRD. Maximum Permissible Size of Defect or Characteristic per Grade

Defect and characteristic	First	Second	Third
Knots per 0.5m <sup>2</sup>	Sound knots only up to 40mm total diameter	Sound knots only up to 75mm total	Unsound knots included up to 150mm
Centre, Margin Splay	Not allowed	diameter Up to ${}^{1}\!/_{4}$ of width	total diameter 2 up to ${}^{1}I_{4}$ width
Rot	Not allowed except in	unsound knots	
Wane	Not exceeding 1.8 thickness 1/2 width	As for First Grade	Not exceeding 1/4 thickness
Slope of grain	1/ <sub>4</sub> legth 1:14	1:8	1/ <sub>6</sub> width 1/ <sub>8</sub> length Unrestricted

Resin pockets or Bark pockets	Not more than 6mm wide or 40mm in length per 1 metre length of piece	Not more than 6mm wide or 80mm in length per 1 metre length of piece	Unrestricted
Checks and splits	Not more than 1mm wide or 400 in length per 1metre length of piece		Not more than 3mm wide or 160mm in length per 1 metre length of piece
Bow	4mm in 1 metre of length	8mm in Imetre of length	16mm in 1 metre of length
Spring	2mm in 1 metre of length	4mm in 1 metre of length	8mm in 1 metre of length
Twist	I degree in 1 metre of length	2 degree in 1 metre of length	3 degrees in 1 metre of length
Cup	1.5 mm in 150mm of width	3mm in 150mm of width	6mm in 150mm of width
Bluestain	5%	15%	Unrestricted
Bead Borer Holes	Not allowed	Not allowed	Unrestricted
Sapwood (where distinct from heartwood)	Not allowed	Up to 2% of face graded	Unrestricted
Undersize (unseasoned timber)	Not allowed	Not allowed	Not allowed
Undersize (seasoned timber)	Not allowed	Not allowed	Not exceeding $V_8$ " in thickness nor $V_4$ " in width
Oversize (unseasoned timber)	All timber to be sawn oversize by, 1.5mm per 25mm of thickness and width		
Oversize (seasoned timber)	Not more than 3mm in the	hickness and not more th	an 6mm in width

#### PART V Grade Marks

- 1. In all giades the letter "S" above the grade number shall denote that the timber has been graded by the strength rules and the letter "A" shall denote that the timber has been graded by the appearance rules.
  - 2. (a) In the case of a first Grade, a circle containing the letters E.A.T. surmounted by the figure.





(b) In the case of Secondary Grade, a triangle containing the letters E.A.T surmounted by the figure 2.





(c) In the case of Third Grade, a square containing the letters E.A.T. surmounted by the figure 3.



(d) in the case of fourth Grade, the letters E.A.T. surmounted by the figure 4.

S	Α
4	4
E.A.T	E.A.T

(e) in the case of Unsorted Grade, the letters E.A.T. surmounted by the letters.

U.S	
S	A
U.S	U.S
E.A.T	E.A.T

(f) in the case of Specified Grade, the letters E.A.T surmounted by the letter S.

S	A
S	S
E.A.T	E.A.T

## TWENTY SEVENTH SCHEDULE

## (Regulation 50 (6) (a))

## NOMENCLATURE OF TANZANIA TIMBERS

Botanical Name	Standard Name	Local Name
Faidherbia albida	Kababu	Mujehe, mranda, mpogola,
		mupongoro, nanda, and musakalame
Acacia nigrescens	Knobthorn	Mkambala, mtambala, huhama
Adina microcephala	Adina	Mgwina, mdogowe
Afrormosia angolensis	E.A. afrormosia	Banga, mbaga, mubanga, umanga,
		muwanga, muvanga, mwanga,
		mwenga
A fzelia africana	Afzelia	Mbembakofi, mkongo, mkola,
A. quanzensis		Mbembakofi, mkongo mkola
Albizia antemisiana	Mgando	Muvura, muvava, mugando,
(harms)		mgando, kaguha, kabuga, kaguagua,
		msangala, mienzienze
A. zygia	Omulera	Mshai, olsanguuwezi, mboromoro,
		mduka, mfurangi, mruka, sori,
		sahati, niensiensi, msevyea, ol
		geturai, msame, mienzienzi
A. schimperiana, Var.	Mfura nji	Mfuanshe, mruka
tephracalyx syn. A.		
maraguensis		
A. versicolour	Mtanga	Mtanga, mvimbarfura, mvimbafur.
A. Versicoloni	Witaliga	myimbarwra, mkindwanzangamba,
		mukingu, mkingu, mduruasi
		mukinga, mkinga, maaraasi
Allanblackia	Allablackia	Msambo, msambu, mkanya,
stuhlmannii		mkange, mkanyi, mshambo, mwaka,
		mkani.
Allophyllus	Mushami	Nyakisagi, mbangwe
abyssinicus		
Amblygonocarpus	Bangawanga	Mjerigwe. msekese
andognensis syn.		
A. obtusangulus		
A. Schweinfurtii		
Antiaris toxicaria syn.	Antiaris	Mlulu, mkuzu
Sideroxylon		
Apodytes dimidiate	White pear	Mfumo, mgarigari, munwamazi,

Botanical Name	Standard Name	Local Name
		niamenne, luachogo, lemo,
		maragurito, maraguiro, muluma,
		mtakamba, mshongalanyiko,
		mwasaguito, mbusunga, mukanta,
		mnguara, mlambuzi,
		mvundahukumu, msivi, untakamba
Baikıaea insignis syn. B. eminii	Mkobakoba	Mukobakoba, mrobaroba
Beilschmeidia kweo	Mfirnbo	Mkweo, mkanta
syn, tylostemnon kweo		N4 : C C
Bombax	E.A. bombax	Muari, mfuma, mfume, mfumo,
rhodognaphalon		mwali, muali, muwaka, msufi wa
		mwitu, muwari, mware, maume,
D = 1.1 . 1 . 12 . 22	N. C L L	roari, mrufi was mwitu, mfumi
Brachylaena hutchinsii	Muhuhu	Ol magogo, muhungwe, hutchinsii,
		mkarambaki, mhugwe, muhuhu,
Dua almatani -	Spiciformis	mkalambaki, karambaki
Brachystegia	Spiciforniis	Mundu, mtundu, molo, spiciformis
spiciformis		gwangaka, mtundom mtundo molo,
		muzombo, miombo botha, myomba botha, mswewe, mizmdiwi, muguti,
		mkuti, luterewe, ndagula, miyombo,
		nirihi, mriti
B tamaridhoides	Mseni	Mseni
Burkea africana	Burkea	Mgandu, mgando, mugando,
burkea ajricana	Durkea	mkalati, makarati, kambi, msangala
Calodendreum	Cape chestnut	Olyaneibor, npisili, olarash,
capense		tunatumro isau
Canarium	African canarium.	
schewinfurthii		
Caseuria battiscombei	Casearia	
Cassipourea malosana	Pillarwood	Engai, salekı, ndindi, ndiri, msadoa,
		ngiwei, elliottii msengera, funzaare,
		nkazito
Cel:is africana	Akansinsa	Mrinde, mrunde, musussu
Syn C. kr <b>a</b> ussiana		
C. dur <b>a</b> ndii		
(a) C. dadoliirederici	Namanuka	Mshinduzi, mzusa, mzugu
(b) C. midbreadii syn,	(a-c)	Mshinduzi, mzusa, mzugu
(b) C. midbreadii syn, C. sayauxii		Mshinduzi, mzusa, mzugu
(b) C. midbreadii syn,	(a-c)	Mshinduzi, mzusa, mzugu
(b) C. midbreadii syn, C. sayauxii (c) C. zenkeri Cephalosphaera	(a-c)	Mshinduzi, mzusa, mzugu  Mtambaa, mtambao, mtambara
(b) C. midbreadii syn, C. sayauxii (c) C. zenkeri Cephalosphaera usambarensis	(a-c) African celtis Mtambara	Mtambaa, mtambao, mtambara
(b) C. midbreadii syn, C. sayauxii (c) C. zenkeri Cephalosphaera usambarensis (a) Chrysophyllum	(a-c) African celtis	
(b) C. midbreadii syn, C. sayauxii (c) C. zenkeri  Cephalosphaera usambarensis (a) Chrysophyllum albidum	(a-c) African celtis Mtambara	Mtambaa, mtambao, mtambara
(b) C. midbreadii syn, C. sayauxii (c) C. zenkeri Cephalosphaera usambarensis (a) Chrysophyllum albidum (b) C. perpulchrum	(a-c) African celtis  Mtambara  (a,b)	Mtambaa, mtambao, mtambara Mberiberi, mfu, mgoma, muhulu
(b) C. midbreadii syn, C. sayauxii (c) C. zenkeri  Cephalosphaera usambarensis (a) Chrysophyllum albidum	(a-c) African celtis Mtambara	Mtambaa, mtambao, mtambara  Mberiberi, mfu, mgoma, muhulu  Mkwaya, mkongola, mkongolo,
(b) C. midbreadii syn, C. sayauxii (c) C. zenkeri Cephalosphaera usambarensis (a) Chrysophyllum albidum (b) C. perpulchrum	(a-c) African celtis  Mtambara  (a,b)  Mgurure	Mtambaa, mtambao, mtambara  Mberiberi, mfu, mgoma, muhulu  Mkwaya, mkongola, mkongolo, mgurure, mpera, mwitu
(b) C. midbreadii syn, C. sayauxii (c) C. zenkeri  Cephalosphaera usambarensis (a) Chrysophyllum albidum (b) C. perpulchrum	(a-c) African celtis  Mtambara  (a,b)	Mtambaa, mtambao, mtambara  Mberiberi, mfu, mgoma, muhulu  Mkwaya, mkongola, mkongolo,

Botanical Name	Standard Name	Local Name
Cornus volkensii syn.	Mukorombozi	Muyandege
Afrocrania vokensii	The state of the s	
Croton macrostachyus	Mutundu	Mfurufuru, ifurufuru, mulugu,
S. Ston macrosimeny as		mulemgu, mukuruguru, mshunduzi
C. megalocarpus	Musine	Mblai,, mlalai, mlandee, mergentu,
c. megarocarpus	Widshie	lelei, lali, ol marbait, ol mergoit, ol
		margait, eiloi, muhande, mepepo
Dalbergia	African black	Mpingo, kidamo, kinti, nyamfunza,
melanoxylon	wood	myamfunga, member, mbingo,
metanoxyton	Wood	gember, ngembi, mgembya
Dialiopsis africana	Mkal <b>y</b> a	Mkarirankobi, mkalya, mkalia,
. Dunopsis ajricana	i wikarya	mjunja wankobe, nyinyawankobe
Diospyros abyssinica	Lusui	Ol gurdien, mulinwini, lukanya,
sy. Maba abyssinica	Eddu	msambu
s) mada adyssinica		msamba
D. Mespiliformis	African	Mkadi, msindi, mnumbulu,
• ,		mnubulu, mgiriti ebony
Chalanaia II	Ekohorgis	ŭ ,
Ekebergia reuppeliana	Ekebergia	Ol mukuma, ol rukana, mshishito,
		msisi, mfuare, musimbi,
		muvulamono, luvulamono, mkuna,
F . 1 1	TI	monko
Entandrophragma spp.	The	Mondo muwumbu, muwungu,
	Entandrophragma	muwumbulu, mondo, mbolo,
	spp. Are often	muondue, muondo kali kali,
	marketed as	mbokoboko, mrie
	"mahogany"	
	together with the	
	true "AFRICAN	
	MAHOGANY"	
	(Khaya spp.). This	
	is undesirable as	
	they differ	
	considerably in	
	properties.	
Erythrophleum	Mkarati	Mganda, mpuga, mgando gele,
africanum		mkalti, mugando, mgimbira, mubulu
Erythrophleum	Missanda	Mkola, muhai, muafi, muavi,
guineense		mwavi, mbaraka, mkelekele, moavi,
		mkarati, muahi, mwahe, mwayara
Fagara amaniensis	Amani satinwood	Mfuakumbi
F. macrophylla	Afrian satinwood	
Fagaropsis angolensis	Mafu	Mfu, mtua, garumo, mkunguni,
syn. Clausena		nkunguni
melioides		. 0
Ficalhoa laurifalia	Ficalhoa	Isiete, mgemusi, nderemu,
January Maria		mwavuala, mwabula, mkuka,
		mkunbashashi
Funtumia latifolia	Bastard wild	Kilimboti, mfijifiju
	rubber	, annoon, magnija
Hagenia abyssinca	Hagenia	Ol kiabe, foono, mwanga, mturungu,
syn. H antehlmintica	Tragema	mlanga, mlaagi, ihangala, ngivavi,
syn. H ameniminica		manga, maagi, mangala, ngivavi,

Botanical Name	Standard Name	Local Name
		lifowama, lifunwuna, mkumburu,
		luziluzi, mrosirose, mtulenye,
		mwectzim mweretsi, isoberlinia
		mbarika mamba, msembe, sembe,
1.11		scheffleri mtambala, mbarika.
Julbernardia	Muwa	Mpanate, msima, muba, mtundu,
globiflora syn.		mgombo, miwe, muwa, isoberlinia
Isoberlinia globiflora		mkwee, ntundu, musimu, miongo,
	1	miombo, myombo
Juniperus procera	African pencil	Ol darakwa, ol tarakwa, semit,
	cedar	nderekwa, nso, mselemuka,
l		mbechera, msingo, selemuka,
	ļ	mbechera, msingo, selemuka,
		mwangati, mjalo, mbalu, noge,
		salemuka.
Khaya anthotheca	African mahogany	Mtondoo, myofu, ililu, mbulu,
		mahongany, nyaelasi mkangazi,
		mtembo, mwawa
Lovoa brownie	Makoba	Msau
Macaranga	Macaranga	Ehaaw, mhaha, muhaa, muhaha,
kilimandscharica		murah, mpalala, muwebe, legumata,
		mkuma
Maesopsis eminii	Musizi	Mhumula, muhumulla, msira,
'		musira, massira
Manilkara propingua		Nkunyamkunya
syn. M. cuneifolia		
Milicia excelsa	Iroko	Mvuli, mvule, muyanzi, mric,
		mpungusi, mtalula, mwale, msule
Millettia stuhlmannii	Panga panga	Mpande
Mitragyna	Nzingu	Mromberombe
rubrosipulata		
'	Nzingu	Mlombelombe
M. stipulosa		
Morus lacteal	E. A. mulberry	Mukimbu, mkimbu
Newtonia buchananii	Newtonia	Mkufi, mpunga, myassa
syn. Piptadania		,,,,,,,
buch <b>a</b> nanii		
Newtonia paucijuga	mdadarika	Mdadalika
syn. Cylicodiscus		madumu
battiscombei		
Ocotea usambarensis	East Africa	Muwong, mwawong, mseri, muheti,
	camphorwood	musiwisi, mbawira, maase, maasi,
	13	nsebi, nkuro, mkuro, mkulo,
		mtoamada, mkenene, msibisibi
●lea africana syn.	Brown olive	Ol orient, senefu, mtamioi, sahati,
Chrysophya spp	DIOWII OIIVE	lagaiyanecheit, muranganji,
Can ysophymu spp	}	msigajemba, mziagembe,
O. hochstetteri	East Africa olive	msigajemba, mziagembe, mziragembe ngwe, lolyondo,
D. HOCHSTEILETT	Last Affica office	mchoyo, mshishio, ol loliondo
O ganguais avv	loliondo	menoyo, maniano, or ionondo
O. capensis syn.	lonondo	
Steganthus welwitschii	1	1

Botanical Name	Standard Name	Local Name
Parinari excelsa syn.	Mubura	Msabula, mula
P. hostii		
Podocarpus spp.	Podo	(a) mvavavı,
(a) P.		nokim,
gracilior		mse mawe,
		muzizizimu
(b) P.		(b) mtokosi, twaso, waso,
milanjianus		msoso, mtosi,
**		mwenbinyigo,
		mwembenyigo, mkensi,
		msese, nyalulasi, lipume,
		muvima, siegi,
		msenamawe,
		msekichanga
(c) P.		(c) mse, mse mawe, muze,
usamb <b>a</b> ren		musse, mvusse
sis var		
dawei		
Pterocarpus	Muninga	Mtumbati, mninga, mkulungu,
angolensis	Mkula	mkurungu, msueta, mkula
P. chrysothrix	mtumbatimtoni	
P. stolzii syn. P.		
zimmermannii		
Pucanthus angolensis	Ilomba	Mnoba
syn P. kombo		
Pygeum africanum	Mueri	Ol gujuk, mseneo, mkondekonde,
		mpembati, gwame, mgambo,
	_	mkomahoyo, mkomohoyo
Rapeanea	Rapenea	Mwase, mlimangombe, mraso,
rhododendroides syn.		kirjasi, kidongadwa, mshiwizo
R. neurophylla Ricinodendron	Musodo	Mtondo, mtene
heudelotii syn. R.	Musodo	Witondo, miene
africanum		
Sterculia	Mgude	Mfune, myale, mgude, msabara,
appendiculata	Mgude   mbalamwezi	muhembetim mguwa, mkungulanga,
S. quinqueloba	IIIUaiaiiiWEZI	mpalamusi, mperumusi,
D. Guingueioou		mpermusi, mwingirangidengi,
	]	mkweanyani, moza
Strambosia scheffleri	Strombosia	Msangana, msangane, fimbo,
amoodia benofficit	3.1.011.00314	msingasinga, mutiluanda,
		msingasinga muzika
Strombosia globulifera	Muyanja	Mianja
Syzygium guineense	Mshiwi	Mchwezi, muvengi, issassa, msalazi,
		nguluka, mpegele, irgatu, muhu,
		mwasya, kisambarai, kizambarai,
	1	mzarabo, sambarau mschihui,
	1	msambaran, mzambarai,

Botanical Name	Standard Name	Local Name
		mzambarau, msengela, msambarao,
		mvenge, muwenge, masdi
Tamaridmus indica	Tamarind	Mkwazu, moy, mkwaju, msisa, ol
		masamburai, msisi, mshishi,
		mkwaja, mkwesu, mkwazu, nshishi,
		musisa
Teclea nobilis	Mudnerendu	Muzo, mdimu, kilongolo, mudzo
Terminalia spp.	Terminalia	Mlajala, mkurungu, mkimamkubwa,
T.aemula		mtagala
Trachylobium	Mtandarusı	Msandaruzi, munyama, msandarusi,
verrucosum		mtandarusi, munanyo
Vitex spp.	Vitex	Muviru, mavuru, mgwobe,
V. doniana		mfurulegea, mfuru ya mtoni, mpulu,
		mkunungu

TWENTY EIGHTH SCHEDULE

(Regulation 50 (12) (a))

Form No. FD 22

#### **TANZANIA**

## CERTIFICATE OF GRADING TIMBER

I hereby certify that I have this day inspected the following timber, the property

lying at					
Species and type of Timber	Grade and Grade Mark	Identification Mark on Timber	No. of pieces	Volume	
(Boards, Planks, Scantlings, Logs, Squares,					
Dimension Stock, etc)					
This Certificate has been issued without alteration or erasure					

this......day of ......20......

Timber Grader Name and Signature

## (Regulation 50 (12) (d))

## Form No. FD. 23

## TANZANIA

## PART I

## APPLICATION FOR TIMBER EXPORT CERTIFICATE

	We the undersige Species	gned, hereb	y apply for	a Permit to 6	export the fo	ollowing timbe	er;
2.	Number of Pi						•••••
	GRADE		Boards	Sca-	Strips and	! Shorts	Total M3
	Hardwood	Soft-	and	ntlings	floorings		
		wood	Planks				
	Prime	First					
	Select	Second					
	Standard	Third					
	Specified	Fourth					
		U/S					
		Specified					
	Total M3						<u> </u>
ΑI	PPLICATION	FOR TIM	IBER EXP	ORT CERT	ΓΙΓΙCATE	(Cont'd)	
	SPECIFIED	GRADE					
	SPECIFIED Hardwood/se		Total M3	Hardwood	Logs	Dimension Stock	Total M3
	Hardwood/so		Total M3	Hardwood	Logs		Total M3
		oftwood	Total M3	Hardwood	l Logs		Total M3
	Hardwood/so Logs Flitches/Bau	oftwood	Total M3	Hardwooa	l Logs		Total M3
	Hardwood/so	oftwood	Total M3	Hardwood	l Logs		Total M3
	Hardwood/so Logs Flitches/Bau Sleepers	oftwood lks	Total M3	Hardwood	l Logs		Total M3
	Logs Flitches/Bau Sleepers D/Stock	oftwood lks	Total M3	Hardwooa	l Logs		Total M3
	Logs Flitches/Bau Sleepers D/Stock Semi-finisher	oftwood lks	Total M3	Hardwood	l Logs		Total M3
3.	Logs Flitches/Bau Sleepers D/Stock Semi-finishe Others Total M3  Marks: (a) Sa (b) Sh	oftwood  lks  d  awmiller's				Stock	
	Logs Flitches/Bau Sleepers D/Stock Semi-finishe Others Total M3  Marks: (a) Sa (b) Sh (c) Co	oftwood  lks  d  awmiller's				Stock	
4.	Logs Flitches/Bau Sleepers D/Stock Semi-finishe Others Total M3  Marks: (a) Sa (b) Sh (c) Co Sawmill of or	oftwood  lks  d  awmiller's				Stock	
4. 5.	Logs Flitches/Bau Sleepers D/Stock Semi-finishe Others Total M3  Marks: (a) Sa (b) Sh (c) Co Sawmill of or Name of signo	d d d d d d d d d d d d d d d d d d d				Stock	
4. 5. 6. 7.	Logs Flitches/Bau Sleepers D/Stock Semi-finishe Others Total M3  Marks: (a) Sa (b) Sh (c) Co Sawmill of or Name of signe Port/ Place of Ship and date	d d d d d d d d d d d d d d d d d d d	if known)			Stock	
4. 5. 6. 7. 8.	Logs Flitches/Bau Sleepers D/Stock Semi-finishe Others Total M3  Marks: (a) Sa (b) Sh (c) Co Sawmill of or Name of signe Port/ Place of	d d d d d d d d d d d d d d d d d d d	if known)signee			Stock	

	rading Certificate Numberice per cubic metre	
Date	Signature	
Applic	eation fees TShs ERV Receipt No Da	ated
	PART II	
	REFUSAL TO GRANT CERTIFICATE OF TIMBER EX	KPORT
TO:	(The Applicant)	
	P. O. Box	
	Your application for a certificate to export timber to been rejected on the following grounds, namely:	b has
Station	1	
	and Signature of Issuing Officer	Titlc/Stamp
		·
	(Regulation 50 (12) (e))	
	TANZANIA	Form No. FD 24
	EXPORT CERTIFICATE	
to exp	or ssion is hereby granted to	
 .at		
	imber have been graded and marked as shown.	
1.		
2.		•
4	9	
5.		
6	3	
7.		
8. 9.		
9.	. remarks	

Calegory and Grade		Amount M3
	Prime	
Boards and Planks	Select	
	Standard	
	Specified	
	Prime	
	Select	
Scantlings	Standard	
Scantings	Specified	
a	Prime	
Strips and Flooring	Select	
	Specified	
Specified		
Round Logs		
Flitches and Baulks		
Dimension Stock		
Sleepers Semi- finished		
Others		
Total		
E. A. Blackwood		
E. A. Diackwood		
Logs/Billets	Prime	
Logs/Billets	Select	
D/Stock	Prime	
Select	Time	
Total		
Certify that the timber approved for e a sustainably managed forest cover in		
Director of Forestry		Date
(Name, Signature and Stamp)		
Application fees TShs ERV		
TWENTY 1	NINETH SCHEDULE	
(Made und	ler regulation 52 (3))	Form No. FD 25
	PARTI	
APPLICATION OF	Prior Informed Con	SENT
I/Wecollcctor/researcher of the genetic re		

informed consent to enable me/us access the same in the F	₹orest	Land/area.
The description and quantities of the said genetic resources are as foll	ows:-	

1	Pescription/ Sype	Quantity	Intended use (academic research/ commercial research or/ commercial use)	Other particulars**

				l l
ial, technical, b	piotechnologic	al, scientif	ic, environmental or	any other
accrue to the c	ountry or loca	l commun	ity from the resource	
nanism and arra	angement for b	enefit sha	ring	
the innovation	, practice, kno	owledge or	technology associat	ed with
esources				
Environmental	l and socio-eco	onomic im	pact assessment	
			Forest Act 2002,	the Forest
)			Date	
TShs	ERV Rece	ipt No	Dated	
ach documents	verifying its le	egal status.		
		the genetic	resource, its sustain	ability and
	PART	11		
Refusal 10	GRANT PRIOR	R INFORMEI	D CONSENT	
(The Applic				
	nstitutions to be the research wation of the resial, technical, the accrue to the chanism and arrathe innovation resources  Environmenta to abide by the directions of t	nstitutions to be involved	nstitutions to be involved	TShs ERV Receipt No Dated ach documents verifying its legal status.  present and potential use of the genetic resource, its sustain arise from accessing it.

	for prior informed Howing grounds, na	l consent for umcly:	has been
Station			
	Name	and Signature of Issuing Offi	cer.
Date:	Title/S	Stamp	
	THIR	TIETH SCHEDULE	
	_		
	(Made una	ler regulation 52 (8) (b))	Form No. FD 26
		PART I	
	APPLICATION FOR	Accessing Genetic resourc	ES
permit to collect		of P. O. Box* in the Forest Reser-	
Description/ Type	Quantity	Intended use (academic research/ conumercial research or/ conumercial use)	Other particulars**
		ions will be involved in thc	
2. Identify local in	nstitutions to be		
		e carried out	
<ul><li>5. Economic, socioenefits that may</li><li>6. Proposed med</li><li>7. Description o</li></ul>	cial, technical, biote accrue to the count hanism and arranged f the innovation, p	eschnological, scientific, enviro ry or local community from the ment for benefit sharing practice, knowledge or techno	nmental or any other he resourceblogy associated with

Description of Environmental and socio-economic impact assessment

we undertake to abide by the requirements of the Forest Act 2002, the Forest egulations and the directions of the Issuing Officer.

Applicani(s)	Date
pplication fees TShs ERV Receipt No	Dated
Applicant to attach documents verifying its legal status.	
* to include the present and potential use of the genetic res risks which may arise from accessing it.	source, its sustainability and
PARTII	
Refusal to Grant a Permit	
ΓΟ: (The Applicant) P. O. Box	
r. O. Bux	
Your application for a permit for accessing genetic resourties has been rejected on the following	
Station	
THIRTY FIRST SCHEDULE	
	Form No. ED 27
	Form No. FD 27
(Made under regulation 53 (3))	
PART I	
APPLICATION OF A LICENCE FOR TIMBER	DEALING
I/we of P. O. Box Hereby with timber of the following description that is to say:-	apply for a license to deal

Species of timber	
Area of operation	
Signature of Applicant	Date
Application fees paid TShs ERV Receipt No	Dated
PART II	
REFUSAL TO GRANT A LICENCE FOR TIMBER D	EALING
TO:  (The Applicant) P. O. Box	
Your application for a permit for a licence for the distribution in the distribution has following grounds, namely:	s been rejected on the
Station  Name and Signature of Issuing Officer	
Date: Title/Stamp	·
THIRTY SECOND SCHEDULE	
(Made under regulation 53 (3))	Form No. FD 28
LICENCE FOR TIMBER DEALING	
THIS Licence is granted to of P. O. Box Licensee") to deal with timber at	(place) in the
<ul> <li>(a) the licensee shall maintain a record of the incomcustomers;</li> </ul>	ing timber and sales to

(b)	the Licensee shall permit and facilitate access to a records by an authorized officer.; and the Licensee shall on demand provide informatic authorized officer in respect of his timber dealing activi	on requested by an
Fees pai	d TShs ERV Receipt No	
		ctor of Forestry gnature and Stamp)
	THIRTY THIRD SCHEDULE	
	(Made under regulation 53 (9))	Form No. FD 29
	PART I	
Λ	PPLICATION OF A LICENCE TO ERECT OR OPERATE A SAW	Mul or Rotu
Descript Business Locality Maximul Types an Quantity Permits/ (a) (b) (c) Expected Number	plant	cality)
	emergency preparednessevant particulars requested by the:-	
Signa	ture of Applicant	Date
Applicat	ion fees paid TShs ERV Receipt No	Dated

## PART II

REFUSAL TO GRANT A LICENCE FOR ERECTION OR OPERATION OF A SAW MILL OR BOT
T●:(The Applicant)
P. O. Box
Your application for a permit for a licence for erection or operation of sa mill or both at
Station
Name and Signature of Issuing Officer
.Date: Title/Stamp
THIRTY FOURTH SCHEDULE
Form No. FD 3 (Made under regulation 53 (9))
LICENCE TO ERECT/OPERATE A SAW MILL/TIMBER TREATMENT PLANT
This Licence is granted to
Date Director of Forestry (Name, Signature and Stamp)
Fees paid TShs ERV Receipt No Dated

## THIRTY FIFTH SCHEDULE

Form No. FD 31

## (Made under regulation 53 (10))

APPLICATION OF LICENCE TO ERECT OR OPERATE A TIMBER TREATMENT PLANT

I/we of P. O. Box Hereby apply for a license to erect/operate a saw mill of the following description that is to say:-
Type of plant
Description of activity and machines
Business Licence obtained
Locality of the plant (sketch attached & full description of the locality)
Maximum Capacity of plant
Types and Source of forest produce and their species
Quantity of Supply
Purpose for which the treatment is intended
Ingredients of the preservative to be used
Dimensions of the timber to be treated
Treatment Schedules
Methods of determining the concentration of preservative in solution and in timber
intelling of determining the concentration of preservative in solution and in timber
Permits/Licences to collect forest produce and expiry date(s):
(a)
(b)
(c)
Expected Market
Number of Employees.
Name the owner and describe address if different from above
Table the eviler and decembe address if different from above
Describe emergency preparedness
Other relevant particulars requested by the:-
(a),
(b),
(c)
(0)
Signature of Applicant Date
<u> </u>
Application fees paid TShs ERV Receipt No Dated

## THIRTY SIXTH SCHEDULE

Form No. FD 32

(Made under regulation 53 (11))

		(Made under	regulation 33	(11))	
Quater	LY RETURNS OF	F ACTIVITIES	at Licensed S	aw Mill/Treatm	ient Plant
Locality of S	Name of Sawm Sawmill/ Treatr	ment Plant			
				. To	
Name of Produce	Opening Stocks on	Material s Received	Materials used	Stocks used/ Sold	Stock balance On
			*************		
	that the inform	 Owner 	VENTH SCHE	<i>D</i> o	ale
			er regulation 54	<u>Fc</u>	orm No. FD. 33
			PART I		
Аррі	LICATION FOR A		e of Registra s and Trader	TION OF FOREST P. S	RODUCE
				hereby apply a	
Date:				Signature of App	olicant
Application	fees TShs	ER <b>V</b> R	eceipt No	Dated .	

## PART II

## Refusal to Grant a Certificate of Registration of Forest Produce ${\sf Dealer/Trader}$

To:

Dear Sir/Madam,	
Your application for registration as fores	t produce dealer/trader dated as not been approved for the following reasons
	as not occir approved for the following reasons
Director of Forestry (Name, Signature and Seal)	Date:
THIRTY EIC	HTH SCHEDULE
	<u>Form No. FD. 34</u>
CERTIFICATE OF REGISTRATION (	OF FOREST PRODUCE DEALER/TRADER
	S/No
=	
Is/	ng with (Name forest produce) at (address) are hereby registered as forest produce
dealer/trader under the provisions of certificate of Registration shall expire on	section 106 of the Forest Act, 2002. This the 30 <sup>th</sup> June
D. (	1.1. 1.00
Date	Authorised OfficerREGION
API	PROVED
Director of Forestry (Name, Signature and Stamp)	Date
• • • • • • • • • • • • • • • • • • • •	No Dated:

CONDITIO	<u> DNS:</u>			
the forest 2. The stock	product concerned.	duced on deman	d before any Se	of stock separately for nior Forestry Officer. ness.
	THIR	TY NINETH SO	— CHEDULE	
	(Maa	le under regulat	ion 54 (5))	Form No. FD. 35
	Yearly/Quarterly Other Tha		EALER OF FOREST REATMENT PLANT	
Name of De	of Forestry aler/T. ider y Returns for period			
Name of Produce	Opening stocks	Materials Received	Quantity Used/sold	Stock Balances On
I/we certify	that the information	contained in this	s return is correc	t.

Dar es Salaam, April, 2004. Zakia Hamdani Meghl Minister for Natural Resources and Tourism

Signature of Dealer/Trader

Date: .....

TABLE I: GROSS VOLUME UNDER BARK PER TREE IN CUBIC METRES, OF INDIGENOUS SPECIES

ç" ECIES CODE	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	
SPECIES NAME	PTEROCARPUS ANGOLENSIS	ISOBERLINIA (JULBERNADIA)SP.	BRACHYSTECIA SPICIFORMIS	TERMINALIA SERICEA	BRACHYSTECIA BOEHMII	BRACHYSTECIA LONCIFOLIA	BRACHYSTECIA MICROPHYLLA	LONCHOCARPUS CAPASSA	PTEROCARPUS CHRYSOTHRIX	COMBRETUM BINDERIANUM	BRACHYSTECIA WANGERMECANA	ALBIZIA ANTUNESIANA	SCLERPCARYA BIRREA	ERYTHROPHLEUSS AFRICANUM	STERCULIA QUINQUELOBA	D.B.H
15	0.06	0.07	0.07	0.07	0.07	0.05	0.08	0.05	0.07	0.06	0.04	0.06	0.05		0.06	15
20	0.14	0.17	0.17	0.16	0.16	0.13	0.19	0.11	0.18	0.15	0.08	0.16	0.12	0.16	0.14	20
25	0.25	0.30	0.30	0.29	0.28	0.23	0.33	0.19	0.31	0.26	0.15	0.27	0.20	0.28	0.25	25
30	0.38	0.46	0.45	0.44	0.43	0.35	0.5	·0.3	0.47	0.39	0.23	0.41	0.31	0.42	0.38	30
35	ი.62	0.75	0.74	0.71	0.71	0.57	0.82	0.48	0.77	0.63	0.37	0.67	0.5	0.69	0.62	35
40	0.89	1.09	1.06	1.03	1.02	0.82	1.18	0.7	0.12	0.92	0.53	0.97	0.72	1	0.89	40
45	1.2	1.47	1.44	1.39	1.37	1.10	1.6	0.94	1.51	1.24	0.71	1.31	0.97	1.35	1.21	45
50	1.33	1.89	1.85	1.79	1.77	1.42	2.06	1.21	1.94	1.99	0.92	1.7	1.25	1.74	1.36	50
55	1.94	2.36	2.31	2.23	2.21	1.78	2.57	1.51	2.42	1.99	1.15	2.12	1.91	2.77	1.94	55
60	2.36	2.99	2.81	2.72	2.69	2.16	2.13	1.84	2.95	2.42	1.4	2.58	1.91	2.64	2.36	60
	1													***************************************		
65	2.82	3.44	3.36	3.25	3.21	2.58	3.73	2.20	3.52	2.89	1.67	3.08	2.28	3.15	2.82	65
70	3.31	4.04	3.95	3.82	3.78	3.04	4.39	2.59	4. 14.	3.4	1.97	3.62	2.68	3.7	3.32	70
75	3.84	4.69	4.58	4.43	4.39	3.52	5.09	3.00	4.81	3.94	2.62	4.2	3.1	4.29	3.85	75
80	4.41	5.38	5.26	5.09	5.03	4.05	5.85	3.45	5.52	4.55	2.98	4.82	3.56		4.42	80
85	5.01	6.12	5.98	5.78	5.72	4.60	6.65	3.92	6.27	5.15	İ	5.48	4.05	5.61	5.03	85
90	5.66	6.9	6.75	6.52	6.46	5.19	7.50	4.42	7.07	5.81	3.36	6.18	4.57	6.32	5.67	90
95	6.33	7.73	7.56	7.30	7.23	5.81	8.40	4.95	7.92	6.5	3.76	6.92	5.12		6.35	95
100	7.05	8.60	8.41	3.13	8.04	6.47	9.34	5.51	8.82	7.24	4.18	7.7	5.7	7.88	7.06	100
105	7.8	9.52	9.3	8.99	8.90	7.16	10.34	6.09	9.75	8.01	4.63	8.52	6.3		7.82	105
110	8.59	10.48	10.24	9.90	9.80	7.88	11.38	6.71	10.74	8.82	5.1	9.38	6.94	9.6	8.6	110
		;														
115	9.41	11.49	11.23	10.85	10.74	8.63	12.40	7.35	11.77	9.66	5.59	10.28	7.61	10.52	9.43	115
120	10.27	12.54	12.25	11.85	11.73	9.42	13.62	8.03	12.85	10.55	6.1	11.22	8.3		10.29	120
125	11.17	13.64	13.32	12.88	12.75	10.25	14.81	8.73	13.97	11.47	6.63	12.2	9.03	12.49	11.19	125
SPECIES CODE	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	

SPE. CIES CODE	17	18	19	20	22	23	24	25	26	27	28	29	30	31	38	
SPECIES NAME	COMBRETUM	ACACIA ROVUMAE	COMMIPHORA AFRICANA	MONOTES ADENOPHYLLUS	AFZELIA QUANZENSIS	STRYCHNUS SCHUMANNIANA	PAIPACUSA DACTYLOPHYLLA	PERICOPSIS ANGOLENSIS	OSTRYODERPIS STUHLMANNII	LANNEA SCHIMPERI	COMBRETUM ZEYHERI	MARKHAMIA OBTUSIFOLIA	DIPLOMRYNCHUS	HYMENOCARDIA MOLLIS	COMBRETUM GRANDIFOLIUM	D.B.H
15	0.05	0.05	0.06	0.06	0.07	0.02	0.06	0.07	0.07	0.06	0.05	0.06	0.03	0.05	0.05	15
20	0.13	0.12	0 14	0.15	0.17	0.05	0.15	0.16	0.16	0.13	0.11	0.14	0.08	0.11	0.13	20
25	0.23	0.22	0.24	0.27	0.29	0.10	0.26	0.28	0.28	0.23	0.19	0.25	0.15	0.20	0.22	25
30	0.35	0.33	0.37	0.41	0.45	0.15	0.36	0.42	0.43	0.36	0.30	0.38	0.22	0.30	0.34	30
35	0.57	0.54	0.60	0.61	0.73	0.24	0.64	0.68	0.70	0.58	0.48	0.62	0.36	0.48	0.55	35
40	0.82	0.77	0.87	0.97	1.05	0.34	0.92	0.99	1.01	0.84	0.70	0.89	0.52	0.70	0.79	40
45	1.11	1.05	1.16	1.30	1.02	0.46	1.23	1.33	1.36	1.43	0.94	1.20	0.70	0.94	1.07	45
50	1.43	1.35	1.52	1.68	1.03	0.60	1.61	1.72	1.75	1.46	1.21	1.55	0.91	1.22	1.38	50
55	1.78	1.68	1.89	2.10	2.28	0.75	2.00	2.15	2.18	1.82	1.51	1.93	1.13	1.52	1.72	55
60	2.17	2.05	2.30	2.55	2.78	0.91	2.44	2.61	2.65	2.21	1.84	2.36	1.38	1.85	2.09	60
65 1	2.59	2.44	2.75	3.05	3.32	1.09	2.91	3.12	3.17	2.64	2.19	2.81	1.64	2.21	2.50	65
70	3.04	2.87	3.23	3.58	3.9	1.28	3.42	3.67	3.73	3.10	2.58	3.31	1.93	2.60	2.93	70
75	3.53	3.34	3.75	4.16	6.33	1.48	3.97	4.26	4.33	3.60	2.99	3.84	2.24	3.01	3.41	75
80	4.05	3.83	4.31	4.77	3.20	1.70	4.56	4.89	4.97	4.14	3.44	4.41	258	3.46	3.91	80
85	4.61	4.35	4.90	5.43	5.91	1.93	5.19	5.56	5.65	4.70	3.91	5.01	2.93	3.93	4.44	85
90	5.19	4.91	5.52	6.12	6.67	2.18	5.85	6.27	6.37	5.30	4.41	5.65	3.30	4.44	5.01	90
95	5.82	5.5	6.18	6.86	7.47	2.44	6.55	7.02	7.13	5.94	4.93	6.33	3.70	4.97	5.61	95
100	6.47	6.12	6.88	7.63	8.31	2.72	7.29	7.81	7.94	6.61	5.49	7.04	4.12	5.53	6.25	100
105	7.16	6.77	7.61	8.44	9 19	3.01	8.07	8.64	8.79	7.31	6.08	7.79	4.56	6.12	6.91	105
110	7.89	7.45	8.38	9.30	18.12	3.31	8.88	9.52	9.67	8.05	6.69	8.58	5.02	6.74	7.61	110
3 S C C C E C C C C C C C C C C C C C C C	8.64	8.17	9.19	10.19	11.18	3.63	8.75	10.43	10.60	8.83	7.33	9.40	5.50	7.38	8.34	115
	9.44	8.92	10.03	11.12	12.11	3.96	10.62	11.38	11.57	9.63	8.00	10.3	6.00	8.06	9.10	120
	10.26	9.70	10.91	12.09	13.17	4.31	11.55	12.38	12.58	10.48	8.70	11.2	6.52	8.76	9.90	125

~ <del>~</del>

SPE. CIES CODE	041	042	043	045	046	047	050	051	052	053	054	056	057	059	060	\
SPECIES T. NAME	VITEX Sp. (MFURU)	PSEUDOLAC HNOSTYLIS MAPROUNE AEFOLIA	HEXALOBUS MONOPETA. LUS	ALBIZIA AMARA	ACACIA Sp (LIVINAWE)	DIOSPYRUS Sp (MNU. MBULU)	COMBRE. TUM RER. NIFOLIUM	BAUHINIA THONNINCII	(MLUMBILA)	THESPESIA CARCKEANA	BRA: CHYSTECIA FLO: RIGUNDA	OCHNA Sp (MWAGA)	ACACIA TORTILIS	DIOSPYRUS MESPILIFOR MIS	ACACIA USA. MBARENSIS	D.B.H
15	0.05	0.07	0.11	2.06	C.26	0.0	0.05	0.03	0.05	0.04	0.07	0.05	0.08	0.05	0.07	15
20	0.05	0.07	0.11	0.13	0.15	0.0	0.03	0.03	0.05	0.04	0.07	0.05	0.08	0.05	0.07	20
25 25	0.12	0.10	0.45	0.13	0.13	0.1	0.13	0.07	0.11	0.11	0.17	0.12	0.20	0.12	0.17	25
30	0.21	0.43	0.68	0.25	0.40	0.2	0.25	0.13	0.19	0.13	0.46	0.32	0.52	0.33	0.46	30
35	0.52	0.70	1.11	0.57	0.66	0.3	0.57	0.32	0.47	0.46	0.75	0.51	0.85	0.33	0.75	35
<del></del>	0.02	0.70		0.07	0.00	1 0.0	0.07	0.02	0.47	0.40	0.75	0.01	0.00	0.00	0.70	
40	0.75	1.01	1,60	0.83	0.95	0.4	0.62	0.46	0.68	0.66	1.09	0.74	0.23	0.77	1.08	40
45	0.01	1.25	2.16	1.12	1.28	0.6	0.11	2.62	0.92	0.9	1.46	1	1.66	1.04	1.45	45
50	1.30	1.75	2.78	1.44	1.65	0.7	1.43	0.80	1.19	1.15	1.89	1.29	2.14	1.34	1.87	50
55	1.62	2.18	3.47	1.80	2.06	0.9	1.78	1.00	1.49	1.44	2.36	1.61	2.67	1.67	2.34	55
60	1.02	2.66	4.23	2.19	2.51	1.1	2.17	1.22	1.81	1.75	2.87	1.96	3.25	2.03	2.85	60
65	2.36	3.17	5.05	2.62	3.00	1.3	2.59	1.46	2.16	2.09	3.43	2.34	3.88	2.43	3.40	65
.70	2.77	3.73	5.93	3.08	3.52	1.5	3.04	1.71	2.54	2.46	4.03	2.75	4.56	2.86	4.00	70
75	3.22	4.33	38.6	3.57	4.09	1.8	3.53	1.99	2.95	2.86	4.67	3.19	5.29	3.31	4.64	75
80	3.7	4.97	7.9	4.10	4.69	2.0	4.06	2.28	3.38	3.28	5.36	3.66	6.07	3.80	5.32	80
85	4.20	5.65	8.99	4.66	5.34	2.3	4.61	2.60	3.85	3.75	6.10	4.17	6.91	4.33	6.05	85
90	4.74	6.37	10.14	5.26	6.02	2.6	5.20	2.93	4.34	4.21	6.88	5	7.79	4.88	6.83	90
95	5.31	7.13	11.35	5.89	6.74	2.9	5.82	3.28	4.86	4.71	7.70	5.26	8.72	5.46	7.64	95
100	5.91	7.94	12.63	6.56	7.50	3.2	6.48	3.65	5.41	5.24	8.57	5.85	9.71	6.08	8.51	100
105	6.54	8.79	13.98	7.26	8.30	3.6	7.17	4.04	5.98	5.80	9.49	6.48	10.74	6.73	9.41	105
110	7.20	9.67	15.39	7.99	9.14	3.9	7.90	4.45	6.50	6.39	10.45	7.13	11.83	7.41	10.36	110
	7.89	10.60	16.87	8.76	10.02	4.3	8.65	4.87	7.00	7.00	11.65	7.82	12.96	8.12	11.36	115
115 120	8.61	11.57	18.41	9.56	10.02	4.3	9.45	5.32	7.22 7.88	7.00 7.64	11.45 12.50	8.53	14.15	8.12 8.86	12.40	120
120	9.36	12.58	20.02	10.39	11.89	5.1	10.27	5.78	7.88 8.57	7.64 8.31	12.50	9.28	15.38	9.64	13.48	120
123	9.30	12.56	20.02	10.39	11.09	3.1	10.27	5.78	8.57	8.51	13.59	9.20	13.30	9.04	13.40	125
SPE. CIES CODE	041	042	043	045	046	047	050	051	052	052	054	056	057	059	060	

SPE. CIES CODE	061	062	063		ОТНЕ	R SPECIES		
SPECIES	KASANGA	BURKEA AFRICANA	STRO. PHANTHUS CHINII	GROUP 1	GROUP 2	GROUP 3	GROUPS 4	
D.B.H				•		-		D.B.H
15	0.05	0.08	0.04	0.06	0.06	0.07	0.07	15
20	0.13	0.20	0.11	0.13	0.14	0 16	0.17	20
25	0.23	0.34	[ 0:19	0.23	0.25	0.29	0.30	25
30	0.35	0.52	0.28	0.36	0.38	0.42	0.45	30
35	0 37	0.85	0.46	0.58	0.62	0.69	0.74	35
40	0.82	1.23	0.67	0.84	0.89	1.00	1.06	40
45	1.10	1.65	0.90	1.13	1.2	1.35	1.44	. 45
50	1.42	2.13	1.16	1.46	1.55	1.74	1.85	50
55	1.77	2.66	1.45	1.82	1.94	2.17	2.31	55
60	2.16	3.24	1.76	2.21	2.36	2.64	2.81	60
			ì	1		1	1	1
65	2.50	3.87	] 2.10	2.04	2.82	3.15	3.36	65
70	3.03	4.55	2.47	3.10	3.31	3.70	3.95	70
75	3.52	5.28	2.87	3.60	3.84	4.29	4.58	75
80	4.04	6.06	3.29	4.14	4.41	4.93	5.26	] 80
85	4.60	6.89	3.75	4.70	5.01	5.61	5.98	85
			1					
90	5.18	7.77	4.23	5.30	5.66	6.32	6.75	90
95	5.80	8.70	4.73	9.90	6.33	7.08	7.56	95
100	6.46	9.68	J 5.27	[ 6.61]	7.05	7.88	8.41 }	100
105	7.15	10.72	5.83	7.31	7.80	8.72	9.30	105
110	7.87	11.80	6.41	8.05	8.59	9.60	10.24	110
			1	1		1		
115	8.62	12.93	7.03	8.83	9.41	10.52	11.23	115
120	9.41	14.11	7.67	9.63	10.27	11.48	12.25	120
125	10.24	15.35	8.34	1 10.48	11,17	12.49	13.32	125
SPE. CIES CODE	061	062	063					

TABLE II - PERCENTAGES OF GROSS VOLUME BY UTILIZATION GRADE

SPE. CIES CODE			001	002	003	004	010	014	020	025	027					
SPECIES NAME	CLASS	GRADE	PTEROCARPUS ANGOLENSIS	ISOBERLINIA (JULBERNADIA)S p.	BRACHYSTECIA SPICIFORMIS	BRACHYSTETECI A BOEHMII	COMBRETUM SINDERIANUM	ERYTHROPHLEU M ∧FRICANUM	MCNOTES ADENOPHYLLUS	AF RORMOSIA ANGOLENSIS	LANNEA SCRIMPERI	ALL OTHER	SPECIES	GRADE	D.B.H CLA	SS
15	1	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			V	15	<u> </u>
TO	1	) S	64.91	/ S.11	64.3	71 0	64.7				68.21	<del>.</del>		S	TO	1
29	J	F	32.10	17.0	25.1	19.31	28.8	12.5	34.7	42.5	27.2	1		F	29	
ļ — — — — — — — — — — — — — — — — — — —		U	97.0	95.1	89.4	90.3	93.5	92.8	94.1	96.3	95.4	90.5		Ū		
j		R	3.0	4.9	10.6	9.7	6.5	7.2	5.9	3.7	4.6	9.5		R		
<u> </u>	<del></del>	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			V		
30		S .	77.4	73.2	69.3	74.0	60.2	62.8	70.0	60.5	69.9	1		S	30	
TO	1	F	16.6	18.6	21.0	20.0	26.7	25.0	20.3	32.3	25.4			F	TO	
44		U	94.0	91.8	90.0	94.0	86.9	87.8	90.3	92.8	95.3	90.5		U	. 44	
	1	R	6.0	8.2	10.0	6.0	13.1	12.2	9.7	7.2	4.7	9.5		R		
		V	0.0	7.1	0.0	0.0		0.0		0.0				V		
45		S	73.2	48.9	77.9	71.5		0.0		69.3				S	45	
TO	l	F	14.2	16.0	11.9	14.2		63.40		19.9				F	TO	
59	1	l U i	87.4	72.01	89.8	85.7		19.6		89.2		90.5		Ú	59	
	<u>[</u>	R	12.6	28.0	10.2	14.3		83.0		10.8	- (	9.5		R		
		) V	0.0		34.9	41.6		17.0		19.9				V		
75		S	69.4		41.6	36.9				44.4				S	75	
ТО		F	15.5		14.6	16.4				21.6				F	TO	
<b>3</b> 9	!	U	84.9		90.5	94.9				85.9		90.5		Ü	89	ł——— <i>l</i>
		R	15.1		9.5	5.1				14.1		9.5		R		ļ
		V												V	07/20	<b> </b>
OVER		S												Š	OVER	-
90	<del> </del>	l r												U	90	
90	<del> </del>	R											90.5	R	- 50	<del> </del>
	<del> </del>												9.5	- '\	<del> </del>	-
	<del> </del>	<del> </del>														-
SPE. CIES CODE			001	002	003	004	010	014	020	025	027					

#### MEASUREMENT REQUIREMENTS

- I. Measurement of tree diameter: When sold at stump the cubic content shall be computed by tariff table from Breast height Diameter (1.3 m above ground level) shall be measured to the nearest 1 cm of 0.5 cm or more being regarded as 1 cm.
- II. The Tree Volume Tables (or Local Volume Tables) for indigenous trees have been reproduced from the report entitled, "Indigenous Forest Inventory of Five Areas of the United Republic of Tanzania Volume 3, Indigenous Trees of Tanzania, Local Volume Tables".
- 111. Although the Tree Volume Tables are based on inventory measurements made in Tabora, there are reasons to believe that they can be applied to the indigenous forests of Mwanza Region also. Before use, the dbh figures in Tables I and II shall be converted to dbh values.

#### EXAMPLES OF TABLE USE

A. Table I – Gross Volumes in Cubic Metres

#### Case 1:

When the D.B.H of the subject tree is divisible by five gross volume corresponding to its D.B.H can be read directly.

Example: A 65 centimetres Mninga (Ptrerocarpus angolensis) from Tabora Block.

Turn to Table 1 for Tabora; find the appropriate species column (001); follow the column down to D.B.H 65; read the gross volume result 2.82 cubic metres.

#### Case 2:

When the D.B.H of the subject tree is not divisible by five, but is between the limits given in the tables, the gross volume corresponding to its D.B.H is found by interpolation.

Example: A 67 centimetre Mninga from Tabora Block.

Turn to Table I for Tabora; find the appropriate species column (001); follow the column down to D.B.H. 65 and 70; read the gross volumes for each D.B.H Volumn 65 = 2.82; volume 70 = 3.31.

Thus a unit increment of D.B.H corresponds to an increment of gross volume of  $\frac{2.31 - 2.82}{2}$ 

Therefore, Volume 67 = 2.82 + 2(3.31 - 2.82)

Result: 3.02 cubic metres

#### Case 3.

When the D.B.H of the subject tree is beyond the limits given in the table, the gross volume corresponding to its D.B.H is found by extrapolation.

Example: a 147 centimetres Mninga from Tabora Block.

Turn to Table 1 for Tabora; find the appropriate species column; follow the column down to the last two entries, e.g. D.B.H 120 and 125; read the gross volumes for each D.B.H.

Volume 120 = 10.27; Volume 125 = 11.17.

Thus a unit increment of D.B.H. correspond to an increment of gross volume of:

Therefore, Volume 
$$147 = 11.17 + (147 - 125)(11.17 - 10.27) = \frac{11.17 + 22 \times 0.90}{5}$$

Result: 15.13 cubic metres

#### Case 4.

When the species of the subject tree is of infrequent occurrence, its gross volume is found by referring to the Alphabetical Key to determine the appropriate "group" column to be used and following the above procedures with the figures found in that column.

#### Case 5.

When the species of the subject tree is of major importance, the grade percentage table will contain an individual column for this species which will show, for a number of D.B.H. classes, the following percentages:

V = Percent of gross volume represented by Veneer-wood;

S = Percent of gross volume represented by Saw-wood;

F = Percent of gross Volume represented by Firewood.

U = Total utilizable percentage (sum of V + S + F);

R = Percent of gross volume represented by Reject wood.

Example: A 67 centimetres Mninga from Tabora Block. Using the procedures given for Case 2 above, determine the gross volume (3.02 cubic metres); determine the 15 centimetres D.B.H. class of the subject tree (60 – 74 centimetres class); turn to Table II for Tabora; find the appropriate species column (001); follow the column down to the determined D.B.H class; read the percentage figures given

$$V = \bullet$$
;  $s = 69.4$ ;  $F = 15.5$ ;  $R = 15.1$ 

Apply the above percentages to the gross volume figure to obtain volumes in each grade (volumes must equal the gross volume figure used).

Result: V O; S = 2.09; F = 0.47; R = 0.46 Total = 3.02 metres<sup>3</sup>. When the species of the subject tree is of minor importance, it will be included in the grade percentage table under "All other species", for which the following percentages are shown;

U = Total Utilizable Percentage;

R = Percent of gross volume represented by reject wood.

Example a 67 centimetres Msinde tree from Tabora Block.

Determine gross volume Table I, column 056 (2.60 cubic metres); determine D.B.H. class (60 - 74 centimetres); turn to table II for Tabora; read percentage figures given.

$$U = 90.5$$
;  $R = 9.5$ 

Apply the above percentage to the gross volume figure to obtain volumes in each grade; (totals must again equal the gross figure used).

Result: U = 2.356; R = 0.25

Total = 2.60 metre<sup>3</sup>.

TARIFF TABLES (FOR USE IN PLANTATION FORESTS ONLY)

Mid Girth In M	2.1	2.4	2.7	3.0	3.3	Log 3.6	Length 3.9	in 4.2	Metres 4.5	4.8	5.1	5.4	5.7	6
1.20	0.241	0.275	0.309	0.344	0.378	0.413	0.447	0.481	0.516	0.550	0.584	0.619	0.6531	0.688
1.25	0.261	0.298	0.336	0.373	0.410	0.448	0.485	0.522	0.560	0.597	0.631	0.671	0.709	0.746
1.30	0.282	0.323	0.363	0.403	0.444	0.484	0.524	0.565	0.505	0.6461	0.686	0.726	0.767	0.807
1.35	0.305	0.348	0.392	0.435	0.479	0.522	0.566	0.609	0.653	0.696	0.740	0.783	0.827	0.870
1.40	0.328	0.374	0.421	0.468	0.515	0.561	0.608	0.655	0.702	0.749	0.795	0.842	0.889	0.936
1.45	0.351	0.402	0.452	0.502	0.552	0.602	0.653	0.703	0.753	0.803	0.853	0.9031	0.954	1.004
1.50	0.376	0.430	0.483	0.537	0.591	0.615	0.698	0.752	0.806	0.8591	0.913	0.967	1.021	1.074
5		j	j	j			j				1	J	j	j
1.55	0.101	0.459)	0.516}	0.574	0.631]	0.685	0.746	0.803)	0.860	0.918	0.975]	1.032	1.0901	1.147
1.60	0.428	0.489	0.550	0.611	0.672	0.733	0.795	0.856	0.917	0.978	1.039	1.100	1.161	1.222
1.65	0.455	0.521	0.585	0.650	0.715	0.780	0.845	0.91	0.975	0.040	1.105	1.170	1.235	1.300
1.70	0.483	0.552	0.621	0.690	0.759	0.828	0.897	0.966	1.035	1.104	1.173	1.242	1.311	1.380
1.75	0.512	0.585	0.658	0.731	0.804	0.877	0.950	1.024	1.097	1.170	1.243	1.316	1.389	1.462
1.80	0.541	0.619	0.695	0.773	0.851	0.928	1.006	1.083	1.160	1.238	1.315	1.392	1.470	1.547
1.85	0.572	0.654	0.735	0.817	0.8991	0.980	1.062	1.144	1.226	1.307	1.389	1.471	1.552	1.631
1.901	0.603	0.689)	0.7761	0.862)	0.948}	1.034	1.120	1.207	1.293	1.379	1.465	1.551	1.637	1.724
1.95	0.635	0.7261	0.817	0.908]	0.9991	1.089	1.180	1.271	1.362	1.452	1.543	1.634	1.725	1.816
2.00	0.668	0.764	0.859	0.955	1.050	1.146	1.241	1.337	1.432	1.528	1.623	1.719	1.814	1.910
1	1		1	-	1	Į.	i	ĺ		1	1	1	(	
2.05	0.702	0.803	. 0.903	1.003	1.104	1.204	1.304	1.405	1.505	1.605	1.706	1.806	1.906	2.007
2.10	0.737	0.842	0.948	1.053	1.152	1.263	1.369	1.474	1.579	1.684	1.7901	1.895	5.000	2.106
2.15	0.772	0.8831	0.993	1.104	1.214	1.324	1.435	1.545	1.655	1.766	1.876	1.986	2.097]	2.207
2.20	0.9091	0.924	1.040	1.155	1.271	1.387	1.502	1.618	1.733	1.849	1.964	2.080	2.195	2.311
2.25	0.846	0.967	1.088	1.209	1.329	1,450	1.571	1.692	1.813	1.934	2.055	2.175	2.296	2.417
2.30	0.884	1.010	1.137	1.263	1.389	1.515	1.642	1.768	1.894	2.021	2.147	2.273	2.399	2.526
2.35	0.923	1.055	1.187	1.318	1.45	1.582	1.714	1.805	1.978	2.109	2.241	2.373	2.505	2.237
2.40	0.963	1.100	1.238	1.375	1.513	1.650	1.788	1.925	2.063	2.200	2.3381	2.479	2.613	2.750
2.45	9.003}	1.146ļ	1.290)	1.433	1.576}	1.720	1.863)	2.006]	2.149	2.293	2.436)	2.475]	2.723]	2.866
2.50	1.044	1.194	1.343	1.492	1.641	1.790	1.940	2.0891	2.238	2.387	2.537	2.686	2.835	2.891
	İ	1	-		1		1	į	ł		1	i		j
2.55	1.087	1.242	1.397	1.552	1.708	1.863	2.018	2.173	2.329	2.484	2.639	2.794	2.949	3.105
2.60	1.130	1.291	1.452	1.614	1.775	1.937	2.098	2.259	2.421	2.582	2.744	2.905	3.066	3.228
2.65	1.174	1.341	1.509	1.676	1.844	2.012	2.179	2.347	2.515	2.682	2.850	3.018	3.185	3.353
2.70	1.218	1.392	1.566	1.740	1.914	2.088	2.262	2.437	2.611	2.785	2.959	3.133	3.307	3.481
2.75	1.264	1.444	1.625	1.805	1.986	2.166	2.347	2.528	2.708	2.889	3.069	3.250	3.430	3.611

Mid Girth In M	2.1	2.4	2.7	3.0	3.3	Log 3.6	Length 3.9	in 4.2	Metres 4.5	4.8	5.1	5.4	5.7	6
2.80	1.310	1.497	1.684	1.872	2.059	2.246	2.433	2.620	2.807	2.995	3.182	3.369	3.556	3.743
2.85	1.357	1.551	1745	1.939	2.133	2.327	2.521	2.715	2.909	3.103	3.296	3.490	3.684	3.878
2.90	1.405	1.606	1.807	2.008	2.209	2.409	2.610	2.811	3.012	3.212	3.413	3.490	3.684	3.878
2.95	1.454	1.662)	1.87	2.078	2.285	2.493	2.701	2.909	3.116	3.324	3.532	3.740	3.947	4.155
3.00	1.504	1.719	1.934	2.149	2.363	2.578	2.793	3.008	3.223	3.438	3.653	3.867	4.082	4.297
3.05	1.555	1.777	1.999	2.221	2.443	2.665	2.887	3.109	3.331	3.553	3.775	3.997	4.220	4.442
3.10	1.606	1.835	2.065	2.294	2.524	2.753	2.982	3.212	3.441	3.671	4.900	3.130	4.359	4.588
3.15	1.658	1.859	2.132	2.369	2.606	2.843	3.079	3.316	3.533	3.790	4.027	4.264	4.501	4.738
3.20	1.711	1.959	2.200	2.445	2.689	2.934	3.178	3.422	3.667	3.911	4.156	4.400	4.645	4.889
3.25	1.765	2.017	2.269	2.522	2.774	3.026	3.278	3.530	3.782	4.035	4.287	4.539	4.791	5.043
3.30	1.820	2.080	2.340	2.600	2.860	3.120	3.380	3.640	3.900	4.160	4.420	4.680	4.940	5.200
3.35	1.875]	2.143	2.411	2.679	2.947	3.215	3.483	3.751	4.019	4.280	4.500	4.823	5.090	5.358
3.40	1.932	2.208	2.484	2.760	3.036	3.312	3.588	3.864	4.140	4.416	4.692	4.968	5.244	5.519
3.45	1.989	2.273	2.557	2.842	3.126	3.410	3.694	3.978	4.262	4.5461	4.831	5.115	5.399	5.683
3.50	2.047	2.340	2.632	2.924	3.217	3.509	3.802	4.094	4.387	4.679	4.972	5.264	5.556	5,849
4.55	2.106	2.407	2.708	3.009	3.309	3.610	3.911	4.212	4.513	4.814	5.115	5.416	5.716	6.017
4.60	2.166	2.475	2.785	3.094	3.403	3.713	4.022	4.332	4.641	4.950	5.260	5.569	5.897	6.188
4.65	2.226	2.544	2.862	3.181	3.499	3.817	4.135	4.453	4.771	5.089	5.407	5.722	6.043	6.361
4.70	2.288	2.615	2.941	3.268	. 3.595	3.922	4.249	4.576	4.902	5.229	5.556	5.883	6.210	6.536
4.75	2.350	2.685	3.021	3.357	3.693	4.029	4.364)	4.700	5.036	5.371	5.707	6.043	6.379	6.714
4.80	2.413	2.758	3.103	3.447	3.792	4.137	4.481	4.826	5.171	5.516	5.860	6.205	6.550	6.895
4.85	2.477	2.831	3.185	3.539	3.892	4.246	4.600	4.954	5.308	5.662	6.016	6.370	6.723	7.077
4.90	2.542	2.905	3.268	3.631	3.994	4.357	4.720	5.084	5.447	5.810	6.173	6,536	6.899	7.262
4.95	2.607	2.980	3.352	3.725	4.097	4.470	4.842	5.215	5.870	5.960	6.332	6.705	7.077	7.450
5.00	2.6741	3.056	3.438	3.820	4.202	4.5841	4.9661	5.348	5.730	6.112	6.4941	6.875	7.257	7.039
5.05	2.741	3.1331	3.5241	3.916	4.307	4.6991	5.091	5.488	5.874	6.265	6.6571	7.048	7.440	7.832
5.10	2.8091	3.210	3.612	4.013	4.414	4.8161	5.217	5.618	5.890	6.421	6.822	7.224	7,225	8.026
5.15	2.878	3.289	3.700	4.112	4.523	4.934	5.3451	5.756	6.167	6.519	6.99	7.401	7,812	8.223
5.20	2.948	3.369	3.790	4.211	4.632	5.053	5.475	5.896	6.317	6.738	7.159	3.000	5.000	8.422
5.25	3.018	3.450	4.881	4.312	4.743	5.175	5.606	6.037	6.468	6.899	7.331	7.762	8.193	8.624
5.30	3.090	3.531	3.973	4.414	4.856	5.297	5.738	6.180	6.621	7.063	7.504	7.945	8.387	8.828
5.35	3.160	3.614	4.066	4.517	4.969	5.421	5.873	6.324	6.776	7.228	7.680	8.131	8.583	9.035
5.40	3.235	3.697	4.160	4.622	5.084	5.546	6.008	6.471	6.933	7.395	7.857	8.319	8.782	9.244
5.45	3.309	3.782	4.255	4.727	5.200	5.673	6.146	6.618	7.091	7.564	8.037	8.509	8 982	9.455
	1	1				1				-	1	-		

Mid Girth	2.1	2.4	2.7	3.0	3.3	Log 3.6	Length 3.9	in 4.2	Metres 4.5	4.8	5.1	5.4	5.7	6
6.50	3.384	3.867	4.351	4.834	5.318	5.801	6.285	6.768	7.251	7.735	8.218	8.702	9.185	9.669
6.55	3.460	3.9541	4.448	4.942	5.437	5.931	6.425	6.919	7.414	7.908	8.402	8.896	9.390	9.885
6.601	3.536	4.041	4.546	5.052	5.557	6.062	6.567	7.072	7.577	8.083	8.588	9.093	9.598	0.103
6.65)	3.613	4.130(	4.646	5.162	5.678	6.194	6.711	7.227	7.743	8.259	8.775	9.292	9.808	0.324
6.70	3.692	4.219	4.746	5.274	5.804	6.328	6.856	7.383	7.910	8.438	8.9651	9.492	1.020	10.547
6.75	3.770	4.309	4.848	5.386	6.464	7.464	7.002	7.541	8.080	8.618	9.1571	9.6961	10.234	10.773
6.80	3.850	4.400	4.950	5.500	6.050	6.600	7.151	7.701	8.251	8.801	9.351	9.901	1.451	11.001
6.85	3 931	4.492	5.054	5.616)	6.177	6.739	7.300	7.862	8.423	8.985	9.546	1.108	10.670	11.231
6.90	4.012	4.586	5.159	5.732	6.305	6.878	7.452	8.025	8.598	8.1711	9.744	0.318	10.891	11.464
6.95	4.095	4.680	5.265	5.850	6.434	7.019	8.604	8.189	8.774	9.359	9.944	1.529	11.114	11.696
				i										
7.00	4.178	4.775	5.371	5.968	6.565	7.162	7.759	8.356	8.952	9.549	10.146	10.743	11.340	11.937
7.05	4.262	4.871	5.479	6.088	6.697	7.306	7.915	8.524	9.132	9.741	10.350	10.959	11.568	12.177
7.10	4.347	4,968	5.588	6.209[	6.830	7.451	8.072	8.693	9.314	9.935	10.556	11.177	11.798	12.419
7.15	4.432	5.065	5.6991	6.332	6.965	7.598	8.231	8.864	9.498	10.131	10.764	11.397	12.030	12.664
7.20	4.519	5.164	5.810	6.445	7.101	7.746	8.392	9.037	9.683	10.329	10.974	11.620	12.265	12.911
7.25	4,606	5.264	5.922	6.580	7.238	7.896	8.554	9.212	9.870	10.528	11.186	11.844	12.502	13.160
7.30	4.694	5.365	6.035	6.706	7.377	8.047	8.718	9.388	10.059	10.730	11.400	12.071	12.741	13.412
7.35	4 783	5.466	6.150	6.833	7.516	8.200	8.883	9.566	10.250	10.933	11.116	12.300	12.983	13.666
7.40	4.873	5.566	6.265	6.961	7.658	8.354	9.050	9.746	10.442	11.138	11.834	12.531	13.227	13.923
7.45	4 964	5.673	6.382	7.091	7.800	8.509	9.218	9.927	10.636	11.346	12.055	12.764	13.473	14.183
		1	1	ļ	Į	j	ļ	1	1	j	1	1	j	
7.50	5.055]	5.777]	6.499)	7.222)	7.944)	8.6661	9.388	10.110]	10.832	11.555	12.277	12.999	13.721	14.443
7 55	5.147	5.883	6.618	7.354	8.089	8.824	9.56	10.295	11.030	11.766	12.501	13.236	13.972	14.707
7.60	5.241	5.9801	6.738	7.487	8.235	8.984	9.733	10.481	11.230	11.979	12.727	13.476	14.225	14.973
7.65	5.335	6.097	6.859	7,621	8.383	9.146	9.907	10.669	11.431	12.193	12.956	13.718	14.480	15.242
7.70	5.429	6.205	6.981	7.756	8.532	9.308		10.859	11.635	12.410	13.186	13.962	14.737	15.513
7.75	5.525	6.314	7.104	7,893	8.682	9.472	10,261	11.050	11.840	12.629	13.418	14.208	14.997	15.786
7.80	5.622	6.425	7.228	8.031	8.834	9.637	10.440		12.046	12.850	13.653	14.456	15.259	16.062
7.85	5.719	6.5361	7.353	8.170	8.987	9.804	10.621	11.438	12.255	13.072	13.889	14.706	15.523	16.340
7.90	5.817	6.648	7.479	8.310	9 141	9.972	10.803	11.634	12.465	13.296	14.127	14.958{	15.790	16.621
7.95	5.916	6.761)	7.607	8.452	9.297	10.142	10.987	11.832	12.678)	13.523	14.368	15.213	16.058	16.903
[00.8	6 016	6.875	7.735	8.594	9.454	10.313	11.173	12.032	12.892	13.751	14.610;	15.470	16.329	17.189

Mid Diam 0.6cm	2.1	2.4	2.7	3.0	3.3	3.6	Long 3.9	Length 4.2	In 4.5	Metres 4.8	5.1	5.7	6.0	1.191
71	0.008	0.0091	0.010	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.020	0.021	0.022	0.023
8	0.011	0.012	0.014	0.015	0.017	0.018		0.021	0.023	0.024	0.026	0.027	0.029	0.030
91	0.013	0.015	0.017	0.019	0 021	0.023		0.027	0.029	0.031	0.032	0.034	0.036	0.038
10	0.016	0.019	0.021	0.024	0.026	0.028		0.033	0.035		0.040	0.0421	0.045	0.047
11	0.020	0.023	0.023	0.029	0.031	0.034	0.037	0.040	0.043	0.046	0.048	0.051	0.054	0.057
12	0.024	0.027	0.031	0.0341	0.037	0.041	0.044	0.048	0.051	0.054	0.058	0.061	0.0964	0.068
13	0.028	0.032	0.036	0.040	0.044	0.048	0.052	0.056	0.060	0.064	0.068	0.072	0.076	0.080
14	0.032	0.037	0.042	0.046	0.051	0.055		0.065	0.069	0.074	0.079	0.083)	0.088	0.092
15	0.037	0.042	0.048	0.053	0.058	0.064		0.074	0.080	0.085	0.090	0.095	0.101	0.106
16	0.042	0.0481	0.0541	0.0601	0.066	0.072	0.078	0.084	0.090	0.097	0.103	0.109	0.151	0.121
17	0.048	0.054	0.061	0.068	0.075	0.082	0.089	0.095	0.102	0.109	0.116	0.123	0.129	0.136
18	0.053	0.061	0.0691	0.076	0.084	0.092	0.099	0.107	0.115	0.122	0.130	0.137	0.145	0.153
19	0.060	0.0681	0.077	0.085	0.094	0.102	0.111	0.119	0.128	0.136	0.145	0.153	0.162	. 0.170
20	0.066	0.075	0.085	0.094	0.104	0.113	0.123	0.132	0.141	0.151	0.16	0.170	0.179	0.188
21	J.073	0.083	0.0941	0.104	0.114	0.125	0.135	0.145	0.156	0.166	0.177	0.187	0.197	0.208
22	0.080	0.091	0.103	0.114	0.125	0.137	0.148	0.160	0.171	0.182	0.194	0.205	0.217	0.228
23	0.087	0.100	0.112	0.125	0.137	0.150	0.162	0.174	0.181	0.199	0.212	0.224	0.237	0.249
24	0.095	0.109	0.122	0.136	0.149	0.163	0.176	0.190	0.204	0.217	0.231	0.244	0.258	0.271
25	0.103	0.118	0.133	0.147	0.162	0.177	0.191	0.206	0.221	0.236	0.250	0.265	0.280	0.295
261	0.111	0.127	0.1431	0.159	0.175	0 191	0.207	0.223	0.239	0.255	0.271	0.287	0,303	0.319
27	0.120	0.137	0.155	0.172	0.189	0.206	0.223	0.240	0.258	0.275	0.292	0.309	0.326	0.344
28	0.129	0.148	0.166	0.185	0.203	0.222	0.240	0.259	0.277	0.2961	0.314	0.333	0.351	0.396
29	0.139	0.159	0.178	0.198	0.218	0.238	0.258	0.277	0.297	0.317	0.337	0.357	0.376	0.396
301	0.148	0.170	0.191	0.212	0.233	0.254	0.276	0.297	0.318	0.339	0.360	0.382	0.403	0.424
31	0.1591	0.181	0.204	0.226	0.249	0.272	0.249	0.317	0.340	0.362	0.3851	0.408	. 0.430	0.453
321	0.160	0.193	0.217	0.241	0.265	0.290		0.338	0.362	0.3861	0.410	0.434	0.458	0.483
331	0.180	0.205	0.231	0.257	0.282	0.308	0.334	0.359	0.385	0.411	0.43€	0.462	0.488	0.513
34	0.191	0.218	0.2451	0.272	0.300	0.327	0.354	0.381	0.409	0.436	0.463	0.490	0.518	0.545
35	0.202	0.231	0.260	0.289	0.317	0.346	0.375	0.404	0.433	0.462	0.491	0.520	0.548	0.577
361	0.214	0.244	0.275	0.305	0.336	0.366	0.397	0.428	0.458	0.4891	0.519	0.550	0.580	0.611
371	0.226	0.258	0.2901	0.323	0.355	0.387	0.419	0.452	0.484	0.516	0.548	0.581	0.613	0.645
381	0.238	0.272	0.3061	0.340	0.374	0.408	0.442	0.476	0.510	0.544	0.578	0.612	0.646	0.68
39	0.251	0.287	0.323	0.358	0.394	0.430	0.466	0.502	0.538	0.573	0.609	0.645	0.681	0.717
40	0.264	0.302	0.359	0.377	0.415	0.452	0.490	0.528	0.565	0.603	0.641	0,679	0.716	0.754

## Appendix II

Mid Diam 0.6cm	2.1	2.4	2.7	3.0	3.3	3.6	Long 3.9	Length	in 4.5	Metres 4.8	5.1	5.7	6.0	1.191
41	0.277	0.3171	0.3561	0.3961	0.436	0.475	0.515	0.555	0.5941	0.6341	0.673	0.713	0.7531	0.792
42	0.291	0.3331	0.3741	0.416	0.457)	0.499	0.540	0.582	0.6231		0.707	0.7481	0.790	0.831
43	0.3051	0.349	0.392	Ü.436[	0.479	0.523	0.566	0.610	0.653	0.697	0.741	0.784	0.828	0.871
24	0.319	0.3651	0.411	0.456	0.502	0.547	0.593	0.639	0.684	0.730	0.775	0.821	0.867	0.912
451	0.334	0.282	0.429	0.477	0.525	0.573	0.620	0.568}	0.716	0.763	0.811	0.859	0.907	0.954
461	0.3491	0.3991	0.4401	0.4991	0.548	0.598	0.648	0.6981	0.748	0.7981	0.8481	0.8971	0.9471	0.997
471	0.3641	0.416	0.468	0.520	0.573	0.525	0.677	0.729	0.7811	0.8331	0.8851	0.937	0.9891	1.041
48	0.38	0.4341	0.489	0.543	0.597	0.651	0.706	0.7601	0.814	0.869	0.923	0.977	1.031	1.086
491	0.396	0.5341	0.509	0.566	0.622	0.679	0.736	0.792	0.849	0.905/	0.962]	1.018	1.075	1.131
50	0.412	0.471	0.530	0.589	0.548	0.567	0.766	0.825	0.884	0.942	1.001	1.060	1.119	1.178

TARRIF TABLE FOR CONIFERS SHOWING TOTAL VOLUME IN M3 OVER BARK

Basal Area Per	DBH IN CM				Ta	ariff <b>N</b> u	mber					DBH IN CM
Tree in M <sup>2</sup>	CIVI	20	21	22	23	24	25	26	27	28	29	CIVI
.0040	7	0.005	0.005	0.005	0.005	.005	.005	.005	.005	.005	.005	7
.0050	8	.010	.010	.011	.011	.011	.011	.012	.012	.012	.012	8
.0064	9	.016	.016	.017	.017	.018	019	.019	.020	.021	.021	9
0079	10	022	.023	.024	.025	026	.027	.028	.029	.030	.030	10
												i i
.0095	11	029	.031	.032	.033	.034	.036	.037	.038	.039	.041	11
.0113	12	.037	.039	.040	.042	.044	.045	.047	.039	.050	.052	12
.0133	13	.046	.048	.050	.052	.054	056	.058	.060	.062	.064	13
0154	14	.055	.057	.060	.062	.065	.068	.070	.073	.075	.078	14
.0177	15	.065	.068	.071	.074	.077	.080	.083	.086	.089	.092	15
.0201		.075	.079	.082	.086	.089	.093	.097	.100	.104	.107	16
.0227		.086	.090	.095	.099	.103	.107	.111	.115	.120	.124	17
0254		.098	.103	.108	.112	.117	.122	.127	.131	.136	.141	18
.0284	_	.1111	.116	.121	.127	.132	.138	.143	.149	.154	.159	19
.0314	20	.124	.130	.136	.142	.148	.154	.160	.166	.172	.179	20
									l			
0346	21	.138	.144	.151	.158	.165	.171	.178		.192	.199	21
.0380	22	.152	.160	.167	.175	.182	.190	.198		.213	.220	22
0415	_	.167	.176	.184	.192	.201	.209	.217		.234	.242	23
.0452	24	183	.193	.202	.211	.220	.229	.238	.247	.256	.266	24
.0491	25	.200	.210	.220	.230	.240	.250	.260	.270	.280	.290	25
0531	26	.217	.228	.239	.250	.261	.272	.283	.293	.304	.315	26
.0573	27	.235	.247	.259	.271	.282	.294	.306	.318	.330	.341	27
.0616	28	.254	.267	.279	.292	.305	.318	.330	.343	.356	.369	28
.0661	29	.273	.287	.301	.413	.328	.342	.356	.369	.383	.397	29
.0707	30	.290	.309	.323	.337	.352	.367	.382	.396	.411	.426	30
.0755	31	.314	.329	.345	.361	.377	.393	.409	.424	.440	.456	31
0804	32	.335	.352	.369		.403	.419	.437	.453	.470	.487	32
.0855	33	.357	.375	.393		.429	.447	.465	.483	.501	.519	33
.0908	34	.380	.399	.418	.437	.457	.476	.495	.514	.533	.553	34
.0962	35	.403	.423	.444	.464	.485	.505	.525	.546	.566	.587	35
		1					ĺ					i i
1018	36	.427	.449	.470	.492	.514	.535	.557	.579	.600	.622	36
.1075		.452	.475	.498	.520	.543	.566	.589	.612	.635	.658	37
.1134	38	.477	.501	.526	.550	.574	.598	.622	.647	.671	.695	38
.1195		.503	.529	.554	.580	.605	.631	.656	.682	.708	.733	39
.1257	40	.530	.557	.584	.611	.638	.665	.691	.718	.746	.772	40
1320	41	.557	.586	.614	.642	.671	.699	.727	.756	.784	.812	41
.1385	_	.585	.615		.675	.704	.734	.764	.794	_	.853	
1452		.614	.645		.708	.704	.770	.802	.833		.895	
1521		.644	.676	.709	.742	.739	.807	.840	.873	.906	.938	1 44 1
.1590		.674	.708		.777	.811	.880	.914	.914			
1 .1390	45	.074	./08	./42	.///	1110.	.000	.914	.914	.948	1.03	45

Basal Area	DBH IN			· · <u>-</u>	Т	ariff Nu	ımber					DBH IN
Per	CM											CM
Tree		20	21	22	23	24	25	26	27	28	29	
in M <sup>2</sup>												
.1662	46	.705	.740	.776	.812	.848	.884	.920	.956	992	1.03	46
.1735	47	.736	.774	.811	.849	.886	.923	.961			1.07	47
.1810	48	.768	.807	.846	886	.925	.964	1	1.04		1.120	48
.1886	49	.801	.842	.883	.923	.964	1.005	1.05	1.09		1.17	49
.1963	50	.835	.877	.920	.962	1.01	1.047	1.090			1 22	50
.2043	51	.869	.913	.957	1.088	1	1.046	1.13	1.18	1.22	1.27	51
.2124	52	.904	.950	.996	1.042	1.09	1.180	1.180			1.32	52
.2206	53	.939	.987	1.035	1.083	1.13	1.179	1.23			1.370	53
.2290	54	.975	1.025	1.075	1.125	1.17	1.224	1.27			1.42	54
.2376	55	1.102	1.064	1.116	1.167	1.22	1.270	1.32	1.37	1.43	1.48	55
		ĺ			,							
.2363	56	1.050	1.103	1.157	1.211	1.264	1.318	1.371	1.425	1.478	1.532	56
.2552	57	1.088	1.144	1.199	1.255	1.310	1.421	1.421	1.477	1.532	1.588	57
.2642		1.127	1.184		1.300		1.415	1.472	1.530	1.587	1.645	58
.2734	59	1.167	1.226	1.286	1.345	1.405	1.464	1.524	1.584	1.643	1.703	59
.2827	60	1.207	1.268	1.330	1.392	1.453				1.700		60
		J										
.2922	61	1.248	1.311	1.375	1.439	1.507	1.516	1.630	1.694	1.757	1.821	61
.3019	62	1.289	1.355	1.421	1.487	1.553	1.619	1.685	1.750	1.816	1.822	62
.3117	63	1.332	1.400	1.468	1.536	1.604	1.672	1.740	1.808	1.876	1.994	63
.3217	64	1.375	1.445	1.515	1.586	1.656	1.726	1.796	1.866	1.937	1.007	64
.3318	65	1.418	1.491	1.563	1.636	1.708	1.781	1.853	1.926	1.998	1.071	65
_												
.3421	66	1.463	1.537	1.612	1.687	1.762	1.836	1.911	1 986	2.061	2.135	66
.3526	67	1.508	1.585	1.662	1.739	1.816	1.893					67
.3632	68	1.553	1.633	1.712	1.792	1.871	1.950					68
.3739		1.600	1.682		1.845					2.254		69
.3348	70	1.647	1.731	1.815	1.093	1.984	2.068	2.152	2.236	2.320	2.405	70
.3959	71	1.695	1.781		1.954					2.388		71
.4072	72	1.743	1.832				2.189					72
.1485		1.792	1.884				2.250					73
.4301	74	1.842	1.936	2.030	2.124	2.219	2 131	2.407	2.501	12.595	2.689	74
.4418	75	1.892	1.989	2.086	2.182	2.279	2.376	2.473	2.570	2.666	2.763	75
											]	
.4536	76	1.943	2.043				2.440					76
4557	77	1.995		2.199	2.301	2.403	2.505	2.607	2.709	2.812	2.914	77
.4778	78	2.048	2.152			2.466	2.571	2.676	2.781	2.885	2.990	78
.4902	79	2.101	2.208		2.423		2.638					79
.5027	80	2.154	2.265	2.375	2.485	2.595	2.706	2.816	2.926	3.037	3.147	80
L	L							<b> </b>				
.5153		2.209	2.322				2.774					81
.5281	82	2.264	2.380	2.496	2.612	2.728	2.843	2 959	3.075	3.191	3.307	82
.5411	83	2.320					2.914					83
.5542	84	2.376	2.498	_			2.985					84
.5675	85	2.434	2.558	2.683	2.807	2.932	3.056	3.181	3.306	3.430	3.555	85
L	0.7	2.55-	2.50:	201:		0.07:	2.000			0.50:	2.705	
.5945		2.550	2.691		2.942					3.594		87
.6082		2.609	2.743			3.144				3.678		88
.6221	89	2.669	2.806		3.079	3.216				3.762		89
.6362	90	2.730	2.870	3.009	3,149	3.289	3.428	3.568	13.708	3.848	3.987	90

Basal	DBH					ariff Ni	milion					DBH
<b>A</b> rea	IN		•		,	01111 1VL	mnei					IN
Per	CM											CM
Tree	CIVI	30	31	32	33	34	35	36	37	38	39	Citi
in M <sup>2</sup>		30	21	32	3.3	34	33	36	3/	30	39	
	- 1	006	006	0061	006	006	000	006	000	006	6.00	-
.0040	7	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	7
.0050	8	.013	.013	013	_	.014	.014	.014	.014	.014	015	8
.0064	9	.022	.022	.023	.023	.024	.024	.025	.026	.026	.027	10
.0079	10	.031	.032	.033	.034	,035	.036	.037	.038	.039	039	10
.0095	11	.042	.043	.044	.046	.047	.048	.049	.051	.052	.053	11
.0113		.054	.055	.057	,060	.060	.062	.063	.065	.067	0.070	12
.0133		.067	.069	.071	.073	.075	.002	.003	.003	.083	.085	13
.0154		.080	.083	.085	.073	.091	.093	.096	.098	.101	.103	14
.0177	15	.095	.098	.101	.104	0.108		0.114	0.117	.120	.123	15
.0177	1-15	.033	.030	.101	.104	0.100	.0111	0.114	0.117	.120	.123	
.0201	16	. 11 1	.115	.118	.122	.125	.129	. 32	136	.140	.143	16
.0227	17	.128	.132	.136	140	.145	.149	.153	157	.161	.165	17
.0254	18	.145	.150	.155	.160	.165	.169	.174	.179	.184	.188	18
.0284	19	.165	.170	.176	.181	.187	.192	.198	.203	.208	.214	19
.0314	20	.185	.191	.107	.203	209	.215	.221	.227	.233	.239	20
										~ ===		
.0346	21	.205	.212	.219	.226	. 23	. 289	.246	.2 53	.260	.267	21
.0380		.228	.235	.243	.250	.258	.265		.280	.288	.296	22
.0415		.250	.259	.267	.275	.284	.292	.300	.509	.317	.325	23
.0452	24	.275	.284	.293	.302	.311	.320	.329	.339	.348	.357	24
. Ø91	25	. 300	.310	.320	.330	.340	.350	.360	.370	.380	.390	25
.0531	26	.326	.337	.348	.359	.370	.380	.391	.402	.413	.424	26
.0573	27	.353	.365	.377	.389	.401	.413	.424	.436	.448	.460	27
.0616	28	.381	.3941	.4071	.420	.433	.445	.458	.471	.484	. 496	28
.0661	29	.411	.425	.438	.452	.466	.480	.493	.507	.521	.535	29
.0707	30	.441	.456	.470	.485	.508	.515	529	.544	.559	.574	30
.0755	31	.472	.4881	.504	.520	.535	.551	.567	.583	. 599	.615	31
.0804	32	.504	.521	.538	.555	.572	.889	.606	.622	.639	.556	32
.0855	33	.537	.555	.573	.591	.609	.628	.646	.664	.682	.700	33
.0908	34	.572	.591	.610	.629	.6 18	.663	.687	.706	.726	. 745	34
●962	35	.607	.627	.648	.668	.689	.709	.729	.750	.70	.791	35
.1018		.644	.665	.687	.708	.730	0.752	.773	.795	. 87	.838	ંઉ
.1075	-	.681	.704	.727	.749	.772	0.7 35	.818	.841	.864	.837	37_
.1134		.719	.743	.768	.792	.816	0.8 10	.854		9 3	.937	38
.1195		.759	.784	.810	.836	.861	0.837	.912			.989	39
.1257	_40	.799	.826	.85 <u>3</u>	088	.907	0.8 34	.961	.988	1.015	1.045	40
				_]								
.1320		840	869	89 <b>7</b>	925	.954			1 039		1.096	41
1385		.883	913	942	972	1 002			1.091			42
.1452	<del></del>	.926	.958	.989		1.051			1.145		1.208	43
.1521		.971	1.004	1.037	1.070	_			1 20i			44
.1590	45	1.016	1.051	1 085	1.119	1 154	1.188	1.222	1.256	11.291	1.325	45
		ļi							<u> </u>			
.1662	-	1.063	1.099		1.171				1.315			46
.1735		1.1111	1.148				1.298		•			
.1810		1.1601	1.199		1.277				1.434			48
1886		1.209	1.250	1,291		1.373			1.495			49
.1963	50	1.260	1.302	1.345	1.387	1.430	1.472	1.515	1.557	1.600	1.643	50

Basal Area	DBH IN				Υ	ariff Nu	mber					DBH IN
Per	CM											CM
Tree		30	31	32	33	34	35	36	37	38	39	
in M²												
.2043	51	1.312	1.356	1.400	1.445	1.489	1.533	1.578	1.622	1.66	1.710	51
.2125	52	1.365	1.411	1.457	1.503	1.549	1.595	1.641	1.687	1.733	1.779	52
.2206	53	1.418	1.466	1.514	1.562	1.610	1.658	1.705	1.753	1.801	1.840	53
.2290	54	1.473	1.523		1.622		1.722					54
.2376	55	1.529	1.580	1.632	1.684	1.735			1.890		1.994	55
.2463	56	1.586	1.639	1.693	1.746	1.800	1.853	1.907	1.961	2.014	2,068	56
.2552	57	1.644	1.699	1.755	1.810	1.866	1.866				2.143	57
.2642	58	1.702	1.702	1.760	1.817	1.875	1.932				2. 163	58
.2734	59	1.762	1.762	1.822	1.881	1.941	2,000	2.060	2.120	2.179	2.239	59
.2827	60	1.823	1.823	1.884	1.946	2.008	2.069	2.131	2.193	2.254	2.316	60
			-									
.2922	61	1.885	.949	2.0.2	2.076	2.140	2.203	2.267	2.331	2.395	.2.459	61
.3019	62	1.948	2.014	2.080	2.146	2.211	2.277	2. 43	2.409	2.475	2.541	62
.3117	63	2.012	2.080	2.148	2.216	2.284	2.352	2.420	2.488	2.556	2.624	63
.3217	64	2.077	2.147	2 . 18	2.288	2.359				2.639	2.709	64
.3318	65	2.143	2.215	2.288	2.360	2.433	2.505	2.578	2.650	2.723	2.795	65 ·
			ŀ									
.3421	66	2.210	2.285	2.360	2.434	2.509	2.584	2.733	2.733	2.808	2.883	66
.3526	67	2.279	2.356	2.433	2.510	2.587	2.664	2.741	2,818	2.812	2.972	67
.3682	68	2.348	2.427	2,506	2.686	2.765	2.745	2.824	. 904	2.983	3.062	68
.3739	69	2.417	2.4 9	2.581	2.663	2.744	2.826	2.908	7990	3.072	3.154	69
.3848	70	2.488	2.573	2.657	2.741	2.825	2.909	2.994	3.078	3.163	3.246	70
			1	-				,				
3959	7	2.561	2.647	2.734	2.821	2.907	2.994	3.088	3. 167	3.348	3.341	71
.4072	72	2.634	2.724	2.813	2.902	2.991	3,080	3.169	3.258	3.348	3.436	72
.4185	73	2.708	2.800	2.891	2.983	2.981	3.166	3.258	3.350	3.44	3.533	73
.4301	74	2.784	2.878	2.972	3.006	3.161	3.255	3.349	3.443	3.53	3.631	74
.4418	75	2.860	2.957	3.054	3.150	3.247	3.344	3.441	3.537	3.634.	3.731	75
			1									
.4536	76	2.937	3.036	3.136	3.235	3.335	3.434	3.533	3.633	3.732	3.832	76
.4657	77	3.016	3.118	3.220	3.322						3.934	77
.4778	78	3.095	3.199	3.304	3.409	3.514	3.618	3.723	3.828	3.933	4.038	78
.4902	79	3.176	3.283	3.391	3.498	3.605	3.713	3.820	3.928	4.035	4.143	79
.5027	80	3.257	3.367	3.478	3.588	3.698				4.139	4.249	80
.5153	81	3.339	3.452	3.565	3.678	3.791	3.904	4.017	4.130	4.243	4.356	81
.5231	82	3.423	3.538	3.654	3.770	3.886	4.002	4.118	4.234	4.349	4.465	82
.5411	83	3.507	3.626	3.745	3.864	3.982	4.101	4.220	4.338	4.457	4.476	83
.5542	84	3.593	3.714	3.836	3.958	4.079	4.201				4.687	84
.5675	85	3.679	3.804	3.929	4.153	4.178	4.302	4.427	4.551	4.676	4.800	85
.5809	86	3.767	3.894	4,022	4.149	4.277	4.404	4.532	4.659	4.787	4.914	86
.5945	87	3.855	3.98	4.117	4.247	4.378	4.508	4.639	4.759	4.900	4.030	87
.6082		3.945	4.07:		4.345	4.479	4.613	4.746	4.880	4.013	4.147	88
.6221	89	4,035	4.17	4.309	4.445	4.582				4.123		89
.6362		1.227	4.26		4.647		4.826					90

Basal Area	DBH IN				T	ariff Nu	ımber					DBH IN
Per	CM											CW
Tree		40	41	42	43	44	45	46	47	48	49	
in M <sup>2</sup>												
.0040	7	.006	.006	.006	.006	.006	.006	.006	.007	.007	.007	7
.0050	8	.015	.015	.015	.016	.016	.016	.017	.017	.017	.017	8
.0064	9	.027	.027	.028	.029	.030	.030	.031	.031	.032	.032	9
.0079	10	.040	.041	.042	.043	.044	.045	.046	.047	.048	.048	10
]												
.0095	11	.054	.056	.057	.058	.059	.061	.062	.063	.064	.066	11
.0113	12	.070	.072	.073	.075	.077	.078	.080	.082	.083	.085	12
.0133	13	.088	.090	.092	.094	.096	.098	.100	.102	.104	.106	13
.0154	14	.106	.108	.111	.113	.116	.119	.121	.124	.126	.129	14
.0177	15	.126	.129	.132	.135	.138	.141	.144	.147	.150	.153	15
								ļ				
.0227	16	.147	.150	.154	.158	.161	.168	.168	.172	.176	.179	16
.0227	17	.170	.174	.178	.182	.186	.190	.195		.203	.207	17
.0254	18	.193	.198	.203	.207	.212	.217	.222	.226	.231	.236	18
.0284	19	.219	.225	.230	.236	.241	.246	.252	.257	.263	.268	19
0314	20	.245	.252	.258	.264	.270	.276	.282	.288	.294	.300	20
.0346	21	.273	.280	.287	.294	.301	.307	.314	.321	.328		21
.0380	22	.303	.311	.318	.326	.333	.341	.348	.356	.363	.371	22
0415	23	.334	.342	.350	.359	.367	.375	.384	.392	.400	.409	23
.0452	24	.366	.375	.384	.393	.403	.412	.421	.430	.439	.448	24
.0491	25	.400	.410	.420	.430	.440	.450	.460	.470	.480	.490	25
1												
.0531	26	.435	.446	.457	.468	.478	.489	.500	.511	.522	.533	26
.0573	27	.472	.483	.495	.507	.519	.531	.542	.554	.566	.578	27
.0616	28	.509	.522	.535	.547	.560	.573	.586	.598	.611	.624	28
.0661	29	.548	.562	.576	.590	.603	.617	.631	.645	.658	.672	29
.0707	30	.589	.603	.618	.633	.648	.662	.677	.692	.707	.722	30
.0755	31	.630	.646	.662	.678	.694	.710	.725	.741	.757	.773	31
.0804	32	.673	.690	.707	.724	.741	.758	.775	.792	.809	.825	32
.0855	33	.718	.736	.754	.772	.790	.808	.826	.844	.862	.880	33
.0908	34	.764	.783	.802	.822	.841	.860	.879	.899	.918	.937	34
.0962	35	1.811	.832	.852	.872	.893	.913	.934	.954	.974	.995	35
1										1		
.2018	36	.860	.882	.903	.925	.947	.968	.990	1.012	1.033	1.055	36
.1075	37	.910	.933	.956	.978	1.001	1.024			1.093		37
.1134	38	.961	.985	1.010		1.058				1.155		38
.1195	39.	1.015	1.040	1.066		1.117		1.168			1.245	39
.1257	40	1,069	1.096		1.149	1.176				1.284	1.311	40
.1320	41	1.124	1.152	1.180	1.209	1.237	1.265	1.294	1.322	1.350	1.379	41
.1335	42	1.180	1,210		1.270					1.418	1.448	42
.1452	43	1.239	1.270		1.333					1.489		43
.1521	44	1.299	1.332	1.365		1.430		1.496	•		1.594	44
.1590	45	1.359	1.394	1.428		1.496		1.565		1.634	1.668	45
i i						1			i			
.1662	46	1.422	1.458	1.494	1.530	1.566	1.602	1.637	1.709	1.709	1.745	46
.1735	47	1.486	1.523	1.561				1.711			1.823	47
.1810		1.551	1.590	1.639		1.708				1.865	1.904	48
1886	_	1.618	1,659	1.699		1.181				1.944	1 985	49
.1963		1,685	1.727		1.812					2.025	2.068	50
	1 30	1,505	1./2/	1.770	1.012	1,555	1.000	11.540	1.703	,2.025	2,500	

Basal Area Per	DBH IN CM				Т	ariff Nu	ımber					DBH
Tree	CIVI	40	41	42	43	4.4	4.5	4.0	47	40	40	CM
in M <sup>2</sup>		40	41	42	43	44	45	46	47	48	49	
.2043	51	1.755	1.799	1.042	1.000	1.020	1.076	10.001	0.65	0.100	0.150	-1
.2124	52	1.825	1.799		1.088		1.976				2.153	51
.2206	53	1.823	1.945		1.964 2.041		2.000	2.102	2.148	2.194	2.240	52 53
.2290	54	1.897	2.020	2.070	2.120	2.089	2.137	2.184	2 232	2.280	2.328	
.2376	55	2.045	2.020	2.070	2.200	2.109	2.304	2.209	2.319	2.308	2.418	54 55
.2370	33	2.043	2.097	2.149	2.200	2.232	2.304	2.333	2.407	2.459	2.510	33
.2463	56	2.121	2.175	2 228	2.282	2 336	2 380	2 1/13	2 496	2.550	2 604	56
.2552	57	2.199	2.255		2.366		2.477					57
.2642	58	2.278	2.335	2 393	2.450	2 508	2 565	2 623	2 680	2 738	2 795	58
.2734	59	2.358	2.417	2.477	2.537	2.596	2 656	2.715	2.775	2.834	2.894	59
.2827	60	2.439	2.501		2.624							60
								2.005	2.070	2.502	2.1331	
.2922	61	2.522	2.586	2.649	2.713	2.777	2.841	2.904	2.968	3.032	3.095	61
.3019	62	2.607	2.673		2.804		2.936	3.002	3.068	3.134	3.199	62
.3117	63	2.692	2.760		2.896		3.032	3.100	3.168	3.236	3.304	63
.3217	64	2.779	2.850	2.920	2.990	3.060	3.131	3.201	3.271	3.341	3.412	64
.3318	65	2.868	2.940		3.085					3.447		65
.3421	66	2.958	3.032	3.107	3.182	3.257	3.331	3.406	3.481	3.556	3.630	66
.3526	67	3.049	3.126	3.203	3.280	3.357	3.435	3.812	3.589	3.666	3.743	67
.3632	68	3.142	3.221	3.301	3.380	3.459	3.539	3.618	3.698	3,777	3.856	68
.3739	69	3.235	3.317	3.399	3.480	3.562	3.644	3.726	3,808	3.889		69
.3848	70	3.330	3.414	3.499	3.583	3.667	3.751	3.835	3.920	4.004	4.088	70
.3959	71	3,427	3.514		3.687					4.120		71
.4072	72	3.526	3.615	3.704	3.793	3.882	3.971	4.061	4.150	4.239	4.328	72
.4185	73	3.624	3 716		3.899			4.174	4.266	4.358	4.449	73
.4301	74	3.726	3.820		4.008						4.573	74
.4318	75	3.828	3.925	4.021	4.118	4.215	4.312	4.409	4.505	4.602	4.699	75
4536	76	3.931	4.030		4.229					4.726		76
.4657	77	4.036	4.139		4,343						4.955	77
.4778	78	4.142	4.247		4.456					4.980	5.085	78
.4902	79	4.250	4.358	4.465		4.680			5.003	5.110		79
.5027	80	4.359	4.470	4.580	4.690	4.800	4.911	5.021				80
		4 455	1.505	4.605	4.605	4.656	- C.S.					
.5153	81	4.469	4.582		4.808		5.035					81
.5281	82	4.581	4.697		4.929	5.045						82
.5411	83	4.695	4.813		4.051							83
.5542	84	4.809	4.931		4.174							84
.5675	85	4.925	5.050	5.174								85
5000	96	5.040	6 170	5 207				<u> </u>				00
.5809	86	5.042	5.170	5.297				<b> </b>				86
5945	87	5.161	5.291					<u> </u>				87
.6082	88	5.280	5.414						<b></b>		-	88
.6221		5.402										89
.6362	90	5.525					L	1		L	L	90

## TOTAL TREE VOLUME IN M3 OVER BARK

		50	51	52	53	54	55	56	57	58	59	
.0040	7	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	7
.0050	8	.018	.018	.018	.018	.019	.019	.019	.019	.020	.020	8
.0064	9	.033	.033	.034	.035	.035	.036	.037	.037	.037	.038	9
.0079	10	.049	.050	.051	.052	.053	.054	.055	.056	.056	.057	10
.0095	11	.067	.068	.069	.071	.072	.073	.074	.076	.077	.078	11
.0113	12	.087	.088	.090	.091	.093	.095	.096	.101	.102	.104	12
.0133	13	.108	.110	.113	.115	.117	.119	.121	.123	.125	.127	13
.0154	14	.131	.134	.136	.139	.142	.144	.147	.149	.152	.154	14
.0177	15	.157	.160	.163	.166	.169	.172	.175	.178	.181	.184	15
				ļ								
.0201	16	.183	.186	.190	.194	.197	.201	.204	.208	.212	.215	16
.0227	17	.211	.211	.215	.224	.228	.232	.236	.240	.245	.249	17
.0254	18	.245	.245	.250	.255	.260	.265	.269	.274	.279	.284	18
.0284	19	.274	.274	.279	.290	.295	.301	.306	.312	.321	.322	19
.0314	20	.306	.306	.312	.325	.331	.337	.343	.349	.555	.361	20
Į į												
.0346	21	.341	.348	.355	.362	.369	.373	.382	.389	.396	.403	21
.0380	22	.379	.386	.394	.401	.409	.416	.424	.431	.439	.447	22
.0155	23	.417	.425	.434	.442	.450	.458	.467	.475	.483	.492	23
.0452	24	.457	.466	.476	.485	.494	.503	.512	.521	.530	.450	24
.0491	25	.500	.510	.520	.530	.540	.550	.560	.570	.580	.590	25
1		1										
.0531	26	.544	.555	.566	.576	.587	.598	.609	.620	.631	.642	26
.0573	27	.590	.602	.613	.625	.637	.649	.661	.672	.684	.696	27
.0616	28	.637	.649	.662	.675	.688	.701	.713	.726	.739	.752	28
.0661	29	.686	.700	.713	.727	.741	.755	.768	.782	.795	.810	29
.0707	30	.736	.751	.766	.881	.795	.810	.825	.840	.854	.869	30
.0755	31	.789	.805	.820	.836	.852	.868	.884	.900	.915	.931	31
.0804	32	.842	.859	.876	.893	.910	.927	.944	.961	.978	.995	32
.0855	33	.898	.916	.934	.952	.970	.988	1.006	1.024	1.043	1.061	33
.0908	34	.956	.975	.995	1.014	1.033	1.052	1 071	1.081	1.110	1.129	34
.0962	35	1.015	1.036	1.056	1.076	1.097	1.117	1.138	1.158	1.178	1.199	35
.1018	36	1.076	1.098	1.120	1.141	1 163	1 185	1.206	1.228	1.250	1.271	36
.1075	37	1.139	1.162	1.185	1.208	1.230	1 253	1.276	1.299	1.322	1.345	37
.1134	38	1.203	1.228	1.252	1.276	1.300	1.324	1.349	1.373	1.397	1.421	38
.1195	39	1.270	1.296	1.321	1.347	1.372	1.398	1.423	1.449	1.475	1.500	39
.1257	40	1.338	1.365	1.392	1.419	1.446	1.473	1.499	1.526	1.553	1.580	40
.1320	41	1.407	1.435	1.463	1.492	1.520	1.548	1.577	1.605	1.633	1.662	41
.1385	42	1.478	1.508		1.567						1.746	42
.1452	43	1.552	1.582			1.676			1.770		1.832	43
.1521	44	1.627	1.659	1.692	1.725	1.758	1.790	1.823	1.856	1.889	1.922	44
.1590	45	1.702	1.736	1.771		1.839	1.839	1.908	1.942	1.946	2,011	45
.1662	46	1.781	1.817	1.853	1.889	1.924	1.960	1.996	2.032	2.068	2.104	46
.1735	47	1.861	1.898	1.936		2.011			2.123		2.198	47
.1810	48	1.943	1.943	1.982		2.060			2.217		2.295	48
.1386	49	2.026	2.067	2.108	2.148			2 271		2.353		49
.1963	50	2.110	2.153	2.195	2.238				2.408			50

		50	51	52	53	54	55	56	57	58	59	
.2043	51	2.198	2.242	2.286	2.331	2.315	2.419	2.463	2.508	2.552	2.596	51
.2124	52	2.286	2.332		2.425	2.471	2.517	2.563	2.609	2.655	2.701	52
.2206	53	2.376	2.426	2.472	2.520	2.568	2.615					53
.2290	54	2.468	2.518	2.567	2.617	2.667	2.171	2.766	2.816	2.866	2.916	54
.2376	55	2.562	2.614	2.665	2.717	2.769	2.820	2.872	2.924	2.975	3.027	55
.2463	56	2.657	2.711	2.764						3.086		56
.2552	57	2.754	2.810			2.977				3.199		57
.2642	58	2.853	2.910		3.026					3.313		58
.2734	59	2.954	3.013		3.132					3.430		59
.2827	60	3.055	3.117	3.179	3.240	3.302	3,363	3,425	3.487	3.548	3.610	60
.2922	61	3.159	3.223	3.287	3 503	3.414	3 478	3 542	3 605	3.669	3 733	61
.3019	62	3,265	3.331			3.529			3.726			62
.3217	63	3.373	3.441	3.509		3.645	3.713					63
.3217	64	3.482	3.552	3.622		3.763				4.044		64
.3318	65	3.592	3.665	3.737		3.882				4.172		65
											.,	
.3421	66	3.705	3.855	3.780	3.929	4.004	4.079	4.154	4.228	4.303	4.378	66
.3526	67	3.820	3.897	3.974	4.051	4.128				4.436		67
.3632	68	3.936	4.015	4.095	4.174	4.254	4.333	4.412	4.492	4.571	4.651	68
.3739	69	4.053	4.135	4.216	4.298	4.380	4.462		4.625			69
.3848	70	4.172	4.256	4.341		4.509		4.677	4.761	4.846	4.930	70
.3959	71	4.294	4.380	4.467	4.640	4.727	4.813	4.900	4.987	4.987	5.073	71
.4072	72	4.417	4.506	4.595	4.685	4.774	4.863	4.952	5.041	5.130	5.219	72
.4185	73	4.541	4.632	4.724	4.816	4.907				5.274		73
.4301	74	4.669	4.762	4.856	4.950	5.044			5.327		5.515	74
.4418	75	4.796	4.892	4.989	5.086	5.183	5.280	5.376	5.473	5.570	5.667	75
.4536	76	4.925	5.024	5.123		5.322				5.720		76
.4657	77	5.057	5.159	5.261		5.465				5.874		77
.4778	78	5.189	5.294		5.504					6.027		78
.4902	79	5.325	5.433	5.940		5.000				6.292		79
.5027	80	5.462	5.572	5.682	5.793	5.903	6.123	6.126	6.233	6.344	6.454	80
.5153	81	5.600	5.713	5.826	5.938	6.052	6 279	6 201	6 504	6.504	6.617	01
.5281	82	5.740	5.856	5.971	6.087	6.203				6.666		81 82
.5411	83	5.882	6.001	6.119		6.475				6.832		83
.5542	84	6.025	6.147	6.268						6.998		84
.5675	85	6.171	6.295	6.420					7.043			85
.3073	00	0.1/1	0.293	0.420	0.544	0.009	0,793	0,510	7.043	1.232	7.525	00
.5809	86	6.317	6.445	6.572	6.827	6.955	7.210	7.082	7,210	7.337	7.465	86
.5945	87	6.466	6.597	6.727		6.988				7.510		87
.6082	88	6.616	6.749	6.883		7.150				7.684		88
.6221	89	6.768	6.905	7.041			7.451					89
.6362	90	6.922	7.062	7.202		7.481				8.040		90

		60	61	62	63	64	65	66	67	68	69	
.0040	7	.007	.007	.007	.007	.007	.007		.007	.007	.007	7
.0050	8	.020	.020	.021	.021	.021	.021		.022	.022	.023	8
.0064	9	.039	.039	.039	.040	.040	.041		.042	.043	.043	9
.0079	10	.058	.058	.059	.060	.061	.063	.063	.064	.065	.066	10
0005		070	070	0011	000	004	000		000	000	001	
.0095	11	.079	079	.081	.083	.084	.086		.088	.089	.091	11
.0113	12	.103	103	.105	.108	.110	.111		.115	.116	.118	12
.0133	13	129	129	131		.138	.140		.144	.146	.148	13
.0154	14	157	157	159		.167	.170		.175	.177	.180	14
0177	15	.187	.187	.190	.196	.199	.202	.205	.208	.212	.214	15
0201	1.0	210	210	222	222	222	227	240	244	247	.251	16
.0201	16	219	.219	.222	.233	.233	.237		.244	.247	.290	
.0227	17 18	.153 .288	.153	.257	.270	.270	.274		.282	.286		17 18
.0254					.307	.307		.318			.332 .376	
0314	19 20	.328 .367	.328	.333	.350	.350 .392	.355		.365 .410	.371	.422	19 20
0314	20	.307	.307	.3/4[	.392	.392	.396	.404	.410	.410	.422	20
.0346	21	.409	.409	.417	.423	.430	.443	.451	.457	.464	.471	21
.0340	22	.454	.454	.462	.469	.430	.492	<u> </u>	.507	.514	.522	22
.0415	23	.500	.500	.508	.517	.526	.542	.551	.559	.567	.576	23
.0413	24	.549	.549	.558	.567	.577	.594		.613	.622	.632	24
.0432	25	.600	.610	.620	.630	.640	.650		.670	.680	.690	25
.0491	23	.000	.010	.020	.030	.040	.030	.000	.070	,080	.090	23
.0531	26	.653	.663	.674	.685	.696	.707	.718	.729	.740	.750	26
.0573	27	.708	.719	.731	.743	.755	.767	.778	.729	.802	.813	27
.0616	28	.764	.777	.790	.802	.815	.767		.853	.866	.879	28
.0661	29	.824	.837	.851	.864	.879	.892		.919	.934	.947	29
.0707	30	.884	.899	.914	.928	.943	.958		.987	1.002	1.017	30
.0707	30	.004	.033	.514	.520	.545	.936	1 .3/2	.967	1.002	1.017	30
.0755	31	.947	.963	.979	.994	1.010	1.026	11 0/12	1.058	1.074	1.089	31
.0804	32	1 012	1.029		1.063	1.079			1.130		1.164	32
.0855	33	1.079	1.023	1.115		1.151			1.205		1.241	33
.0908	34	1 148	1.167	1.187		1.225			1.283		1.321	34
.0962	35	1.219	1.240		1.281	1.301			1.362	1.383	1.403	35
.03012		1.213	1.240	1.200	1.201	1.501	1,521	1.002	1.502	1.505	1.100	- 55
.1018	36	1.293	1.314	1 336	1.358	1.380	1 401	11 423	1.444	1.466	1.488	36
.1075	37	1.368	1.391		1.437	1.459			1.529		1.574	37
.1134	38	1.445	1.470	1.494		1.542	1.567			1.639	1.666	38
.1195	39	1.526	1.551	1.577		1.628		1.678	1.704		1.755	39
.1257	40	1.607	1.634		1.687	1.715		1.768	1.795		1.849	40
								i				
.1320	41	1.690	1.719	1.747	1.775	1.802	1.832	1.860	1.889	1.917	1.945	41
.1385	42	1.775	1.806	1.835		1.895				2.014	2.044	2
1452	43	1.864	1.895	1.926		1.989	2.020			2.113		43
.1521	44	1.954	1.986		2.052	2.085		2.150		2.216	2.248	44
.1590	45	2.045	2.080	2.114		2.182	2.216			2.319	2.354	45
								j				
1662	46	2.140	2.175	2.211	2.247	2.283	2.319	2.355	2.391	2.427	2.462	46
1735	47	2.236	2.273	2.311		2.386		2.461	2.536		2.373	47
.1810	48	2.334	2.373		2.451	2.491		2.569		2.647	2.686	48
1886	49	2.434	2.475	2.516		2.598	2.322	2.679	2.720	2.761	2.801	49
.1963	50	2.535	2.579	2.621	2.664	2.706			2.834		2.919	50

		60	61	62	63	64	65	66	67	68	69	*
.2043	51	2.641	2.685	2.729	2.774	2.818	2.862	2.906	2.950	2.995	3.039	51
.2124	52	2.747	2.793	2.839	2.885	2.932	2.978	3.023	3.069	3.116	3.162	52
.2206	53	2.855	2.903		2.999		3.094					53
.2290	54	2.965	3.015	3.065	3.115	3.164				3.363		54
.2376	55	3.079	3.130	3,182	3.233	3.285	3.237	3.388	3.440	3.492	3.543	55
0.450		0.100	0.046	0.000	2.05.4	0.407	0.461	0.51.4	0.560	2.600	0.675	
.2463	56	3.193	3.246		3.354	3.407				3.622		56
2552	57	3.310	3.365	3.421	3.476					3.754	3.809	57
.2642	58 59	3.428	3.486 3.609	3.543 3.668	3.543 3.728	3.658 3.787				3.889 4.026	3.946	58 59
.2827	60	3.672	3.734	3.795	3.857	3.787			4.104		4.083	60
.2027	00	3.072	3.734	3.793	3.637	3.916	3.960	4.042	4.104	4.104	4,221	-00
.2922	61	3.796	3.861	3.988	3.924	4.051	4 115	4 179	4 243	4.306	4.371	61
.3019	62	3.924	3.990	4.122	4.122	4.178			4.385		4.517	62
.3117	63	4.053	4.121	4.189						4.597		63
.3217	64	4.184	4.255	4.235	4.395					4.746		64
.3318	65	4.317	4.390	4.462	4.535	4.607			4.825		4.970	65
.3421	66	4.453	4.529	4.602	4.677	4.752				5.Q51		66
.3526	67	4.591	4.667	4.745	4.821	4.899				5.207		67
.3632	68	4.730	4.809	4.889		5.048			5.285		5.444	- 68
.3739	69	4.871	4.953	5.034		5.198			5.444		5.607	69
.3848	70	5.014	4.099	5.188	5.267	5.351	5.435	5.520	5.604	5.687	5.772	70
2050	٠.	5 1 50	5.047	5 222	5 400	5 506	5 500	F 600	F 767	5.053	5040	٠, ١
.3959	71	5.160	5.247	5.333	5.420					5.853		71
.4072	72	5.309	5.397	5.487		5.665				6.022		72
.4185	73 74	5.457 5.610	5.549 5.704	5.798	5.733 5.892	5.824 5.986				6.190 6.363		73 74
.4418	75	5.763	5.860	5.957	6.054	6.151				6.538	6.634	75
.4410	73	3.703	3.000	3.937	0.034	0.131	0.247	0.344	0.441	0,556	0,034	/3
.4536	76	5.919	6.019	6.117	6.217	6.316	6.416	6 516	6.615	6 714	6.814	76
.4657	77	6.078	6.179		6.383		6.588					77
.4778	78	6.237	6.342		6.552		6.760					78
.4902	79	6.400	6.507		6.722							79
.5027	80	6.564	6.774	6.785	6.894	7.005		7.225	7.335			80
		70	71	72	73	74	75	76	77	78	79	
.0040	7	.008	.008	.008	.008	.008	.008	.008	.008	.008	.008	7
.0050	8	.023	.024	.024	.024	.024	.024	.025	.025	.025	.025	8
.0064	9	.045	.045	.046	.046	.047	.047	.048	.049	.049	.050	9
.0069	10	.068	.069	.070	.070	.071	.072	.073	.074	.075	.076	10
.0095	11	.092	.094	.095	.096	.097	.098	.099	.101	.102	.103	11
.0113	12	.120	.122	.123	.125	.126	.128	.129	.131	.133	.135	12
.113	13	.151	.153	.155	.157	.159	.161	.163	.165	.167	.170	13
.0154	14	.183	.185	.188	.191	.193	.196	.198		.203	.206	14
.0177	15	.218	.221	.224	.227	.230	.233	.236	.239	.243	.246	15
.0201	16	.255	.259	.262	.266	.269	.273	.276	.280	.284	.287	16
.0227	17	.295	.299	.303	.307	.312	.316	.320	.324	.323	.333	17
.'0254	18	.336	.341	.346	.351	.355	.360			.323	.333	18
.0234	19	.382	.388	.346	.399	.404	.409	.415		.426	.431	19
.0204	13	.302	.300	,393	,399	.404	.409	.413	.420	.420	.431	19

		70	71	72	73	74	75	76	77	78	79	
.0344	20	.428	.434	.441	.447	.453	.459	.465	.471	.478	.483	20
0346	21	.478	.484	.491	.498	.505	.511	.518	.525	.532	.539	21
						ļ						
.0380	22	.530	.537	.545	.552	.560	.567	.575	.582	.590	.598	22
.0415	23	.583	.592	.600	.608	.617	.625	.633	.641	.650	.659	23
.0452	24	.640	.649	.658	.668	.677	.686	.695	.704	.714	.723	24
.0491	25	.700	710	.720	.730	.740	.750	.760	.770	.780	.790	25
.0531	26	761	772	.783	.794	.805	.816	.826	.837	.849	.860	26
.0573	27	.826	.838	.849	.861	.873	.885	.896	.908	.921	.9933	27
.0616	28	.892	.905	.917	.930	.943	.955	.968	.981	.995	1.007	28
.0661	29	.961	.975	.988	1.009					1.073		29
.0707	30	1.031	1.046	1.061	1.076				1.35	1.50	1.165	30
.0755	31	1.105	1.121	1.137	1,153	1.168	1.184	1.200	1.216	1.232	1.248	31
.0804	32	1.180	1.197	1.214	1 221	1 2/0	1.265	1 202	1 200	1 216	1 222	32
.0855	33	1.259	1.197		1.231	1.331					1.422	33
.0908	34	1.340	1.359	1.295		1.417						34
.0962	35	1.423	1.443	1.464	1.484		1.525				1.607	35
.1018	36	1.509	1.530	1.552	1.574							36
.1010)	30	1.303	1.550	1.332	1.374	1.555	1.017	1.030	1.000	1.002	1.704	- 50
.1075	37	1.596	1.619	1.642	1.665	1 688	1.711	1 743	1 757	1 780	1.803	37
1134	38		1.711	1.735							1.905	38
.1195		1.780	1.806	1.831	1.857		1.908					39
.1257		1.875	1.902	1.929		1.983						40
.1320		1.972	2,000	2.029	2.055		2.114			2.199		41
1												
.1385	42	2.072	2.102	2.131	2.161	2.191	2.221	2.250	2.280	2.300	2.341	42
.1452	43	2.175	2.206	2.237	2.268	2.300	2.331	2.362	2.394	2.425	2.457	43
.1521	44	2.280	2.313	2.346	2.379	2.412	2.445	2.477	2.510	2.513	2.576	44
.1590	45	2.386	2.421	2.455	2.489	2.524			2.627	2.661	2.696	45
.1662	46	2.497	2.533	2.569	2.605	2.641	2.677	2.713	2,748	2.784	2.820	46
										·		
.1735	47	2.609	2.646	2.684	2.722	2 759				2.909		47
.1810		2.724	2.763	2.802		2.881						48
.1886	49	2.840	2.881	2.922		3.004				3.168		49
.1963	50	2.958	3,000	3.043	3.187	3.129				3.300		50
.2043	51	3.081	3.125	3.170	3.215	3.259	3.303	3.347	3,392	3.437	3.481	51
			2 25.			0.000	0.405			10.535	12.600	
.2124	52	3.205	3.251	3.298		3.390				3.576		52
.2206	53	3.331	3.379	3.427		3.524						53 54
.2290	54	3.460	3.509	3,560	3.610	3.660	3 /10	3.759	3.809	3.860	3.910	54
- 1										1		
		80	81	82	83	84	85	86	87	88	89	
.0040	7	.008	.008	.008	.008	.008	.008	.008	.008	.008	008	7
.0050	8	.026	.026	.026	.026	.027	.027	.027	.027	.028	.028	8
.0064	9	.050	.051	.051	.052	.052	.053	053	.054	.054	.055	9
0069	10	076	.077	.078	.079	080	.081	.082	.083		.084	10
0095	11	.0105	0106	.0107	.0102	.0109	.0111	.0112	0113	.0114	0116	11

		80	81	82	83	84	85	86	87	88	89	
.0113	12	.136	.138	139	.141	.143	.144	.146	.148	.149	.151	12
.0133	13	171	.173	.175	.173	180	.182	.184	.186	.188	.190	13
.0154	14	.208	.211	.213	.216	.218	.221	.223	.226	.228	.231	14
.0177	15	.249	.252	.255	.258	.261	.264	.267	.270	.273	.276	15
.0201	16	.291	.294	,298	.301	.305	.309	.312	.316	.319	.323	16
.0227	17	.336	.341	.345	.349	.353	.357	.361	.365	.370	.374	17
.0254	18	.384	.389	.393	.398	.403	.408	.412	.417	.422	.427	18
.0284	19	436	.442	.447	.453	.458	464	.469	.474	.480	.485	19
.0314	20	.489	495	.501	.507	.513	.520	.526	.530	.538	.544	20
.0346	21	.546	552	.559	566	.573	579	.586	.593	.600	.607	21
.0380	22	.605	.613	.620	.628	.635	.643	.650	.650	.665	.673	22
.0415	23	.667	.675	.683	.691	.700	.708	.716	.725	.733	.741	23
.0452	24	732	.741	.750	.759	.768	.777	.786	.795	.805	.814	24
.0491	25	.800	.810	.820	.830	.840	.850	.860	.875	.880	.890	25
.0531	26	.870	.881	.892	.903	.914	.925	.936	.946	.957	.968	26
.0573	27	.944	.956	.968	.979	.991	1.003	1,015	1.027	1.039	1.050	27
.0616	28	1 020	1.032		1.058	1.071	1.083	1.096	1.03	1.122	1.134	28
.0661	29	1 099	1.112	1.126	1.141	1.154	1.167	1.181	1.195	1.209	1.222	29
.0707	30	1.180	1.194	1.209	1.224	1.138	1.253	1.268	1.263	1.298	1.312	30
.0755	31	1.264	1.279	1.295	1.311	1.327	1.343	1.359	1.375	1.390	1.406	31
.0804	32	1.350	1.367	1.384	1.400	1.417	1.434	1.451	1.468	1.485	1.502	32
.0855	33	1.259	1.457	1.475	1.493	1.512	1.530	1.548	1.366	1.584	1.602	33
.0908	34	1.532	1.552	1.571	1.590	1.609	1.629	1.648	1.661	1.686	1.706	34
.0962	35	1.627	1.648	1.668	1.668	1.709	1.29	1.750	1.770	1.795	1.811	35
.1018	36	1.725	1.7471	1.769	1.791	1.812	1.834	1.856	1.877	1.899	1.921	36
.1075	37	1.826	1.849	1.871	1.894	1.917	1.940	1.963	1.986	2.009	2.032	37
.1134	38	1.929	1.953	1.978	2.002	2.026						38
.1195	39	2.037	2.062			2.139			2.216		2.267	39
.1257	40	2.145	2.172	2.199			2.280				2.388	40
.1320	41	2.256	2.284	2,313		2.369			2.434		2.511	41
				1	_							
.1385	42	2.370	2.400	2.430	2.459	2.489	2.519	2,549	2.571	2.609	2.638	42
1452	43	2.488	2.519		2.581	2.613				2.738		43
1521	44	2.609	2.642			2.740			2.839		2.904	44
1590	45	2.730	2.764	2.799	2.833	2.867		2.936	_	3.005		45
1662	46	2.856	2.892			3.000	3.036					46