ITTO PROJECT PD 318/04 REV. 2. (I) – "QUALITY CONTROL AND STANDARDIZATION OF GHANAIAN WOOD PRODUCTS"

IDENTIFY LOCAL MARKET REQUIREMENTS FOR TIMBER AND WOOD PRODUCTS AND PRIORITY AREAS FOR STANDARDS AND GRADING RULES DEVELOPMENT

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LIST OF ACRONYMS

FAWAG	Furniture & Wood Products Association of Ghana
FC	Forestry Commission
FORIG	Forestry Research Institute of Ghana
FSD	Forestry Services Division
GIPC	Ghana Investments Promotion Centre
GSB	Ghana Standards Board
GTA	Ghana Timber Association
GTMO	Ghana Timber Millers' Organization
ISO	International Standards Organisation
ITTO	International Tropical Timber Organisation
BoG	Bank of Ghana
MLFM	Ministry of Lands, Forestry and Mines
TIDD	Timber Industry Development Division of Forestry Commission
LUS	Lesser Used Species
WITC	Wood Industries Training Centre

1.0 INTRODUCTION

1.1 Background

Intricacy and difficulty in getting the adequate amount of raw material inputs and species of wood has been the main obstacle of local wood products manufactures. Besides, the domestic market quality needs have been compromised as timber and wood products supplied to the domestic market have no grading rule. The timber industry has over the years been associated with export sales and offers falldown (fail to pass grading standard) timber for the local market. Wood supply to the local market in the past few years is registering decline in both volume and quality, despite an increase in the annual allowable cut (AAC) from 1.0 million m^3 to 2.0 million m^3. The decline in wood supply has been attributed to industry making every effort to obtain maximum value from the wood, targeting the export market and neglecting the local market quota.

The total volume of sawmill lumber available for domestic use is only 152,660 m^3 per year, yet the demand of the domestic end-users is about 384,730 m^3. This means that the difference of 232,070 m^3 has to be supplied from other sources such as illegal logging and chainsaw operations. In some parts of the country such as the Volta Region where sawmills are scarce but there is timber, almost all wood supplied to the market comes from chainsaw operations.

The timber industry contended that producing timber, plywood, veneer, etc for the local market is a mirage and unachievable due to cost of production which could only be recuperated through exporting. Industry aver that while their operational cost is saddled with myriads of taxes, high and interrupted power and are also compelled by law to charge VAT on their products thus making their products uncompetitive compared to illegal timber which is readily available and cheap imported furniture which further devalue wood. Some FAWAG members complained bitterly that they could not afford to buy quality dried wood from sawmills at export prices and could only buy the rejected ones from the mills. They affirmed that chain-sawn wood was the only source of quality wood to wood workers. In some parts of the country where there were no sawmills, chained-sawn lumber was the only wood in their timber markets albeit it sales is still illegal

1.2 Objective of The Study

The objective of this study was therefore to identify the local market requirements for timber and wood products, their availability and prioritize products for standards development.

2.0 METHODOLOGY

The methods used in gathering data and information included use of questionnaires and discussions with key officials of Forestry Commission and members of Ghana Timber Association (GTA), Ghana Timber Millers Organisation and civil society. Focus group meetings were also held for some members of Small Scale- Carpenters Association and other wood workers as well as interviewing other relevant stakeholders. Additional information especially on priority areas for standards and grading rules development was taken as an output of the plenary section of the inception workshop where all stakeholders were represented.

3.0 STRUCTURE OF THE GHANA TIMBER INDUSTRY BY PRODUCT AND ACTIVITY AND CAPACITY TO SUPPLY LOCAL MARKET WOOD REQUIREMENTS

Bulk of legal timber and other wood products in the wood markets are obtained from sawn mills as ‘factory rejects’ and ‘fall-downs’ therefore availability of wood to the local market varies directly as the number of wood industry in a locality and presence of defects in the products which disqualified it for export. The transformation of the timber industry to be more efficient and gearing towards diversity as a result of policy change has resulted in the following industry structure as at the year 2002 (relevant for domestic product supply) as shown in table 1.

Table 1: Structure of the wood industry with respect to some products (export)

Product	
Sawn timber[1] and sleepers	170
Profiled and Machined timber	37
Dowels and broomsticks	7
Flooring	9
Furniture Parts	4
Sliced Veneer	19
Rotary Veneer	20
Layons	1
Curls Veneer	6
Plywood	23
Flush Doors	1
Boules[2]	4

1 There are 100 companies exporting kiln-dried material.

2 Boules exports have been suspended with the exception of Niangon and Ofram

3 Some companies are exporting more than one product.

4 The industry is mostly privately owned.

It is the falldown of this processed wood mainly secondary and tertiary that is supplied to the domestic market in any form or condition. They are sold in popular wood markets mainly in cities.

The total volume of sawmill lumber available for domestic use is only 152,660 m^3 per year out of 384,730 m^3 required. Thus the difference of 232,070 m^3 would probably be supplied from other sources.

3.1 Commonly used wood products in Ghana

Wood products are found in every home in Ghana. They vary in design, composition and quality and these depend on financial capacity of individuals, location in the country, taste etc. These products do come from small and large scale companies with different levels of sophistication and design. There is generally increase demand for wood and wood products. This increasing demand has led to diversity of products and producers are compelled to use LUS of which they lack technical and preservation knowledge.

Apart from lumber, other timber and wood products required for the local market could be classified as follows:

i. Building members such as: doors, door and window frames, flooring parquets, mouldings including T & G members.
ii. Veneer and plywood,
iii. Furniture including cabinets, wardrobes, beds tables and chairs for schools, offices and homes and specialty products like poultry feed trays, crates, pallets, coffins and chop-boxes; and

iv. Toys and utility products like kitchen stools and broomsticks.

Most of these commonly used wood products are produced by small scale carpenters who exhibit very little specialisation. Their products serve the local market and overland export to neighbouring countries such as Togo, Burkina Faso and Mali (Ward & Gilbert (2001)).

4.0 LOCAL MARKET REQUIREMENT FOR TIMBER AND WOOD PRODUCTS AND PREFERED SPECIES

4.1 Summary of Recommended Species For Domestic Furniture

Table 2 is a recommended list of timber species with satisfactory results for furniture manufacturing especially for domestic use.

Table 2: Some timber species for domestic furniture

Botanical Name	Pilot Name	Standard Name
Afzelia africana	Doussie	Afzelia
*Albizia zygia**	-	Albezia
*Alstonia boonei**	Emien	Alstonia
*Amphimas spp**	Lati	-
*Aningeria robusta/altissima**	Aningre	Aningeria
*Antiaris africana**	Ako	Antiaris
*Antrocaryon micraster**	Onzabili	Antrocaryon
Berlinia spp.	Ebiara	Berlinia
*Rhodo buonopozense**	Kapokier	Akata
*Canarium schweinfurthii**	Aiele	Canarium
Cedrella odorata	Cedro	Cedar
*Ceiba petandra/thonningii**	Fuma	Ceiba
*Celtis mildbraedii/zenkeri**	Ohia	Celtis
*Petersianthus macrocarpus**	Essia	Essia
Copaifera salikounda	Etimoe	Copaifera
Cordia millenii/platythrysa	Cordia	Cordia
*Daniella ogea/thurifera**	Faro	Ogea
Distemonanthus benthamianus	Movingui	Ayan
Entandrophragma angolense	Tiama	Gedu-Nohor
Entandrophragma candollei	Kosipo	Omu
Entandrophragma cylindricum	Sapelli	Sapele
Entandrophragma utile	Sipo	Utile
*Sterculia oblonga**	Eyong	-
*Chyrsophyllum africanum**	Longhi (Rouge)	Longi Rouge
*Chyrsophyllum albidum**	Longhi	Longi Blanc
*Chyrsophyllum subnundum**	Longhi (Rouge)	Longhi (Rouge)
Guarea cedrata	Bosse (clair)	Guarea (scented)
Guarea thompsonii	Bosse (fancé)	Guarea (black)
Guibourtia ehie	Ovengkol	Ovangkol
Heritiera utilis	Niangon	Niangon
*Holoptelea grandis**	Kekele	-
Khaya anthoteca	Acajou	African Mahogany
Khaya grandifoliola	Acajou	Anthoteca
Khaya ivorensis	Acajou	African Mahogany
Lovoa trichilioides	Dibetou	African Walnut
Mansonia altissima	Mansonia	Mansonia
Milicia excelsa/regia	Iroko	Iroko/Odum
*Mitragyana ciliata**	Abura	-
Nesogordonia papavifera	Kotibe	Danta
Pericopsis elata	Afrormosia	Afrormosia
*Pterygota macrocarpa**	Koto	Pterygota
*Pycnanthus angolensis**	Illomba	Illomba

Note. The list is by no means exhaustive.
** Species which require preservation treatment*

Other species such as *Triplochiton scleroxylon, Terminalia superba, Terminalia ivorensis, Tectona grandis and Turreanthus africanus* are also recommended and highly patronized. It was observed that demand for wood for furniture varies with locality and taste of the people. *Aningeria robusta and Tectona grandis* were observed to be the most demanded wood for

furniture in cities mainly Kumasi, Tema and Accra; *Turreanthus africanus* for Eastern Region of Ghana and "red wood" for other parts of the country.

4.2 Wood Products And Recommended Timber Species For Construction

Table 3 is a general guide to appropriate use of Ghanaian timber species as recommended by the Forestry Commission of Ghana.

Table 3: Ghanaian timber species and their recommended utilisation

Utilization/Product	Local Name	Botanical Name
Bench Tops	Danta	*Nesogordonia papaverifera = Cistanthera papaverifera*
Blockboard	Ofram Sapelewood	*Terminalia superba Entandrophragma cylindricum*
	Wawa	*Triplochiton scleroxylon*
Boat Components	Danta	*Nesogordonia papaverifera = Cistanthera papaverifera*
Boat Construction	African Mahogany	*Khaya ivorensis; K. anthotheca*
	African Walnut	*Lovoa klaineana = L. trichilioides*
	Cedrela	*Cedrela odorata*
	Edinam	*Entandrophragma angolense*
	Guarea	*Guarea cedrata; G. thompsonii*
	Kusia	*Nauclea diderrichii = Sarcocephalus diderrichii*
	Makore	*Dumoria heckelii = Mimusops heckelli = Tieghemella heckelli*
	Niangon	*Heritiera utilis = Tarrietia utilis*
	Odum	*Milicia excelsa = Chloroplora excelsa; M. regia = C.regia*
	Okoro	*Albizia zygia*
	Papao	*Afzelia africana; A. bella*
	Sapelewood	*Entandrophragma cylindricum*
	Teak	*Tectona grandis*
	Utile	*Entandrophragma utile*
Boxes	Aprokuma	*Antrocaryon micraster*
	Asoma	*Parkia bicolor*
	Awiemfosamina	*Albizia ferruginea*
	Bombax	*Bombax spp.; B. brevicuspe; B. buonopozense*
	Ceiba	*Ceiba pentandra*
	Kyenkyen	*Antiaris toxicaria*

	Kyere	*Pterygota macrocarpa*
	Otie	*Pycnanthus angolensis*
	Sinduro	*Alstonia boonei*
Bridges	Bompagya	*Mammea africana*
	Denya	*Cylicodiscus gabunensis*
	Potrodom	*Erythrophleum africanum; E. guineense; E. ivorense*
Cabinet Work	African Mahogany	*Khaya ivorensis; K. anthotheca*
	Bediwonua	*Canarium schweinfurthii*
	Bonsamdua	*Distemonanthus benthamianus*
	Bubinga	*Copaifera salikounda*
	Danta	*Nesogordonia papaverifera = Cistanthera papaverifera*
	Edinam	*Entandrophragma angolense*
	Guarea	*Guarea cedrata; G. thompsonii*
	Hyedua	*Guibourtia ehie = Copaifera ehie*
	Mansonia	*Mansonia altissima*
	Odum	*Milicia excelsa = Chloroplora excelsa; M. regia = C.regia*
	Teak	*Tectona grandis*
Carpentry	Bompagya	*Mammea africana*
	Essia	*Petersia africana = Petersianthus africanus = P. macrocarpus = Combretodendron africanum*
	Kyere	*Pterygota macrocarpa*
	Okoro	*Albizia zygia*
Carvings Type 1	Bombax	*Bombax spp.; B. brevicuspe; B. buonopozense*
	Hyedua	*Guibourtia ehie = Copaifera ehie*
	Kyenkyen	*Antiaris toxicaria*
Carvings Type 2	African Mahogany	*Khaya ivorensis; K. anthotheca*
	Makore	*Dumoria heckelii = Mimusops heckelli = Tieghmella heckelli*
	Sapelewood	*Entandrophragma cylindricum*
Construction		
Construction - Heavy	Denya	*Cylicodiscus gabunensis*
	Kokoti	*Anopyxis klaineana*
	Kruma	*Klainedoxa gabonesis*
	Papao	*Afzelia africana; A. bella*

	Potrodom	*Erythrophleum africanum; E. guineense; E. ivorense*
Construction - Utility	Essia	*Petersia africana = Petersianthus africanus = P. macrocarpus = Combretodendron africanum*
Crates	Awiemfosamina	*Albizia ferruginea*
	Sinduro	*Alstonia boonei*
Doors	African Mahogany	*Khaya ivorensis; K. anthotheca*
	Edinam	*Entandrophragma angolense*
	Kosipo	*Entandrophragma candollei*
	Niangon	*Heritiera utilis = Tarrietia utilis*
	Papao	*Afzelia africana; A. bella*
	Sapelewood	*Entandrophragma cylindricum*
	Yaya	*Amphimas pterocarpoides*
Doors And Frames	African Walnut	*Lovoa klaineana = L. trichilioides*
	Bonsamdua	*Distemonanthus benthamianus*
	Utile	*Entandrophragma utile*
Exterior Structures	Duabankye	*Dialium spp; D. aubrevillei*
	Wawabima	*Sterculia rhinopetala*
Exterior Use (With Preservative Treatment)	Celtis	*Celtis mildbraedii = C.zenkeri*
Fittings	Avodire	*Turreanthus africanus*
	Cedrela	*Cedrela odorata*
	Hyedua	*Guibourtia ehie = Copaifera ehie*
	Kosipo	*Entandrophragma candollei*
	Sapelewood	*Entandrophragma cylindricum*
	Wawabima	*Sterculia rhinopetala*
Flooring	Afrormosia	*Afrormosia elata - Pericopsis elata*
	Akasa	*Chrysophyllum spp.; C. albidum; C. giganteum; C. subnudum*
	Awiemfosamina	*Albizia ferruginea*
	Berlinia	*Berlinia spp.*
	Bonsamdua	*Distemonanthus benthamianus*
	Bubinga	*Copaifera salikounda*
	Celtis	*Celtis mildbraedii = C.zenkeri*
	Duabankye	*Dialium spp; D. aubrevillei*
	Edinam	*Entandrophragma angolense*
	Guarea	*Guarea cedrata; G. thompsonii*

	Hyedua	*Guibourtia ehie = Copaifera ehie*
	Kosipo	*Entandrophragma candollei*
	Kusia	*Nauclea diderrichii = Sarcocephalus diderrichii*
	Mansonia	*Mansonia altissima*
	Odum	*Milicia excelsa = Chloroplora excelsa; M. regia = C.regia*
	Okoro	*Albizia zygia*
	Papao	*Afzelia africana; A. bella*
	Teak	*Tectona grandis*
	Utile	*Entandrophragma utile*
	Wawabima	*Sterculia rhinopetala*
Flooring - Domestic	African Walnut	*Lovoa klaineana = L. trichilioides*
	Emeri	*Terminalia ivorensis*
Flooring - Heavy Duty	Ananta	*Cynometra ananta*
	Denya	*Cylicodiscus gabunensis*
	Kaku	*Lophira alata = L.procera*
	Kokoti	*Anopyxis klaineana*
Flooring - Industrial	Afina	*Strombosia glaucescens; S. glaucescens var. lucida, S. pustulata*
	Potrodom	*Erythrophleum africanum; E. guineense; E. ivorense*
Flooring - Light	Aprokuma	*Antrocaryon micraster*
Food Containers	Bombax	*Bombax spp.; B. brevicuspe; B. buonopozense*
	Ceiba	*Ceiba pentandra*
Frames	African Mahogany	*Khaya ivorensis; K. anthotheca*
	Cedrela	*Cedrela odorata*
	Cordia	*Cordia millenii; C. platythyrsa*
	Emeri	*Terminalia ivorensis*
	Niangon	*Heritiera utilis = Tarrietia utilis*
	Odum	*Milicia excelsa = Chloroplora excelsa; M. regia = C.regia*
	Sapelewood	*Entandrophragma cylindricum*
	Teak	*Tectona grandis*
Furniture	African Mahogany	*Khaya ivorensis; K. anthotheca*
	Afrormosia	*Afrormosia elata - Pericopsis elata*
	Aprokuma	*Antrocaryon micraster*
	Avodire	*Turreanthus africanus*
	Awiemfosamina	*Albizia ferruginea*

	Bediwonua	*Canarium schweinfurthii*
	Cedrela	*Cedrela odorata*
	Celtis	*Celtis mildbraedii = C.zenkeri*
	Edinam	*Entandrophragma angolense*
	Emeri	*Terminalia ivorensis*
	Guarea	*Guarea cedrata; G. thompsonii*
	Kosipo	*Entandrophragma candollei*
	Makore	*Dumoria heckelii = Mimusops heckelli = Tieghmella heckelli*
	Niangon	*Heritiera utilis = Tarrietia utilis*
	Ofram	*Terminalia superba*
	Okoro	*Albizia zygia*
	Otie	*Pycnanthus angolensis*
	Papao	*Afzelia africana; A. bella*
	Yaya	*Amphimas pterocarpoides*
Furniture - Utility	Akasa	*Chrysophyllum spp.; C. albidum; C. giganteum; C. subnudum*
	Asoma	*Parkia bicolor*
	Wawa	*Triplochiton scleroxylon*
Furniture And Cabinet Work - High Quality	African Walnut	*Lovoa klaineana = L. trichilioides*
	Sapelewood	*Entandrophragma cylindricum*
	Utile	*Entandrophragma utile*
Garden Furniture	Afrormosia	*Afrormosia elata - Pericopsis elata*
	Dahmoa	*Piptadenia africana = Piptadeniastrum africanum*
	Odum	*Milicia excelsa = Chloroplora excelsa; M. regia = C.regia*
	Teak	*Tectona grandis*
Handles	Celtis	*Celtis mildbraedii = C.zenkeri*
	Duabankye	*Dialium spp; D. aubrevillei*
	Makore	*Dumoria heckelii = Mimusops heckelli = Tieghmella heckelli*
	Papao	*Afzelia africana; A. bella*
Interior And Exterior Applications	Danta	*Nesogordonia papaverifera = Cistanthera papaverifera*
Joinery	African Walnut	*Lovoa klaineana = L. trichilioides*
	Aprokuma	*Antrocaryon micraster*

	Berlinia	*Berlinia spp.*
	Cedrela	*Cedrela odorata*
	Emeri	*Terminalia ivorensis*
	Guarea	*Guarea cedrata; G. thompsonii*
	Kosipo	*Entandrophragma candollei*
	Kyere	*Pterygota macrocarpa*
	Okoro	*Albizia zygia*
	Sapelewood	*Entandrophragma cylindricum*
	Wawabima	*Sterculia rhinopetala*
Joinery - Exterior	Ananta	*Cynometra ananta*
	Awiemfosamina	*Albizia ferruginea*
	Bompagya	*Mammea africana*
	Bonsamdua	*Distemonanthus benthamianus*
	Edinam	*Entandrophragma angolense*
	Makore	*Dumoria heckelii = Mimusops heckelli = Tieghmella heckelli*
	Niangon	*Heritiera utilis = Tarrietia utilis*
	Odum	*Milicia excelsa = Chloroplora excelsa; M. regia = C.regia*
	Papao	*Afzelia africana; A. bella*
	Utile	*Entandrophragma utile*
Joinery - Heavy	Afina	*Strombosia glaucescens; S. glaucescens var. lucida, S. pustulata*
Joinery - High Quality	African Mahogany	*Khaya ivorensis; K. anthotheca*
	Afrormosia	*Afrormosia elata - Pericopsis elata*
	Bubinga	*Copaifera salikounda*
	Danta	*Nesogordonia papaverifera = Cistanthera papaverifera*
	Hyedua	*Guibourtia ehie = Copaifera ehie*
	Mansonia	*Mansonia altissima*
Light Structural Work		
Marine Defence	Dahmoa	*Piptadenia africana = Piptadeniastrum africanum*
	Duabankye	*Dialium spp; D. aubrevillei*
Matches	Bombax	*Bombax spp.; B. brevicuspe; B. buonopozense*
	Sinduro	*Alstonia boonei*

Mining Timbers	Afina	*Strombosia glaucescens; S. glaucescens var. lucida, S. pustulata*
	Ananta	*Cynometra ananta*
	Dahmoa	*Piptadenia africana = Piptadeniastrum africanum*
	Denya	*Cylicodiscus gabunensis*
	Duabankye	*Dialium spp; D. aubrevillei*
	Kokoti	*Anopyxis klaineana*
Mouldings	African Mahogany	*Khaya ivorensis; K. anthotheca*
	Aprokuma	*Antrocaryon micraster*
	Avodire	*Turreanthus africanus*
	Awiemfosamina	*Albizia ferruginea*
	Bediwonua	*Canarium schweinfurthii*
	Bombax	*Bombax spp.; B. brevicuspe; B. buonopozense*
	Bubinga	*Copaifera salikounda*
	Ceiba	*Ceiba pentandra*
	Celtis	*Celtis mildbraedii = C.zenkeri*
	Cordia	*Cordia millenii; C. platythyrsa*
	Emeri	*Terminalia ivorensis*
	Ofram	*Terminalia superba*
	Otie	*Pycnanthus angolensis*
	Wawa	*Triplochiton scleroxylon*
	Yaya	*Amphimas pterocarpoides*
Packaging	Aprokuma	*Antrocaryon micraster*
Panelling	Asanfena	*Aningeria spp.; A. altissima; A. robusta*
	Bediwonua	*Canarium schweinfurthii*
	Kusia	*Nauclea diderrichii = Sarcocephalus diderrichii*
	Ofram	*Terminalia superba*
	Yaya	*Amphimas pterocarpoides*
Piling	Denya	*Cylicodiscus gabunensis*
	Duabankye	*Dialium spp; D. aubrevillei*
	Kaku	*Lophira alata = L.procera*
	Kokoti	*Anopyxis klaineana*
	Potrodom	*Erythrophleum africanum; E. guineense; E. ivorense*
Plywood	African Mahogany	*Khaya ivorensis; K. anthotheca*

	Awiemfosamina	*Albizia ferruginea*
	Bediwonua	*Canarium schweinfurthii*
	Cedrela	*Cedrela odorata*
	Celtis	*Celtis mildbraedii = C.zenkeri*
	Edinam	*Entandrophragma angolense*
	Emeri	*Terminalia ivorensis*
	Guarea	*Guarea cedrata; G. thompsonii*
	Kosipo	*Entandrophragma candollei*
	Kyenkyen	*Antiaris toxicaria*
	Kyere	*Pterygota macrocarpa*
	Makore	*Dumoria heckelii = Mimusops heckelli = Tieghmella heckelli*
	Niangon	*Heritiera utilis = Tarrietia utilis*
	Ofram	*Terminalia superba*
	Okoro	*Albizia zygia*
	Otie	*Pycnanthus angolensis*
	Sapelewood	*Entandrophragma cylindricum*
	Sinduro	*Alstonia boonei*
	Utile	*Entandrophragma utile*
	Wawa	*Triplochiton scleroxylon*
	Wawabima	*Sterculia rhinopetala*
	Yaya	*Amphimas pterocarpoides*
Poles	Ananta	*Cynometra ananta*
Sauna Linings	Wawa	*Triplochiton scleroxylon*
Sea Defence And Dock Work	Denya	*Cylicodiscus gabunensis*
	Kaku	*Lophira alata = L.procera*
	Kruma	*Klainedoxa gabonesis*
	Kusia	*Nauclea diderrichii = Sarcocephalus diderrichii*
	Potrodom	*Erythrophleum africanum; E. guineense; E. ivorense*
Shelving	Kyenkyen	*Antiaris toxicaria*
Ship And Boat Work	Afrormosia	*Afrormosia elata - Pericopsis elata*
	Bompagya	*Mammea africana*
	Denya	*Cylicodiscus gabunensis*
	Kosipo	*Entandrophragma candollei*
Structural Work - Light	Akasa	*Chrysophyllum spp.; C. albidum; C. giganteum; C. subnudum*
	Aprokuma	*Antrocaryon micraster*
	Awiemfosamina	*Albizia ferruginea*

	Emeri	*Terminalia ivorensis*
	Guarea	*Guarea cedrata; G. thompsonii*
Structures - Exposed Heavy Duty		
Tool Handles	Afina	*Strombosia glaucescens; S. glaucescens var. lucida, S. pustulata*
	Kyenkyen	*Antiaris toxicaria*
Toys	Cedrela	*Cedrela odorata*
	Kyenkyen	*Antiaris toxicaria*
	Wawa	*Triplochiton scleroxylon*
Trim	Asanfena	*Aningeria spp.; A. altissima; A. robusta*
	Bubinga	*Copaifera salikounda*
	Cordia	*Cordia millenii; C. platythyrsa*
	Emeri	*Terminalia ivorensis*
	Hyedua	*Guibourtia ehie = Copaifera ehie*
	Kyenkyen	*Antiaris toxicaria*
	Ofram	*Terminalia superba*
	Otie	*Pycnanthus angolensis*
	Wawa	*Triplochiton scleroxylon*
	Yaya	*Amphimas pterocarpoides*
Trim - Interior	Asoma	*Parkia bicolor*
	Bombax	*Bombax spp.; B. brevicuspe; B. buonopozense*
	Celtis	*Celtis mildbraedii = C.zenkeri*
	Sinduro	*Alstonia boonei*
Turnery	African Mahogany	*Khaya ivorensis; K. anthotheca*
	Akasa	*Chrysophyllum spp.; C. albidum; C. giganteum; C. subnudum*
	Bediwonua	*Canarium schweinfurthii*
	Cordia	*Cordia millenii; C. platythyrsa*
	Danta	*Nesogordonia papaverifera = Cistanthera papaverifera*
	Edinam	*Entandrophragma angolense*
	Guarea	*Guarea cedrata; G. thompsonii*
	Hyedua	*Guibourtia ehie = Copaifera ehie*
	Kosipo	*Entandrophragma candollei*
	Makore	*Dumoria heckelii = Mimusops heckelli = Tieghmella heckelli*

	Mansonia	*Mansonia altissima*
	Sapelewood	*Entandrophragma cylindricum*
Vats		
Vehicle Bodies	Afina	*Strombosia glaucescens; S. glaucescens var. lucida, S. pustulata*
	Ananta	*Cynometra ananta*
	Awiemfosamina	*Albizia ferruginea*
Veneer - Rotary	Asoma	*Parkia bicolor*
	Awiemfosamina	*Albizia ferruginea*
	Bediwonua	*Canarium schweinfurthii*
	Berlinia	*Berlinia spp.*
	Edinam	*Entandrophragma angolense*
	Kyenkyen	*Antiaris toxicaria*
	Kyere	*Pterygota macrocarpa*
	Mansonia	*Mansonia altissima*
	Ofram	*Terminalia superba*
	Otie	*Pycnanthus angolensis*
	Sapelewood	*Entandrophragma cylindricum*
	Sinduro	*Alstonia boonei*
	Utile	*Entandrophragma utile*
	Wawa	*Triplochiton scleroxylon*
	Wawabima	*Sterculia rhinopetala*
Veneer - Sliced	Asanfena	*Aningeria spp.; A. altissima; A. robusta*
	Awiemfosamina	*Albizia ferruginea*
	Bediwonua	*Canarium schweinfurthii*
	Berlinia	*Berlinia spp.*
	Bubinga	*Copaifera salikounda*
	Edinam	*Entandrophragma angolense*
	Essia	*Petersia africana = Petersianthus africanus = P. macrocarpus = Combretodendron africanum*
	Hyedua	*Guibourtia ehie = Copaifera ehie*
	Kyenkyen	*Antiaris toxicaria*
	Kyere	*Pterygota macrocarpa*
	Mansonia	*Mansonia altissima*
	Sapelewood	*Entandrophragma cylindricum*
	Teak	*Tectona grandis*
	Utile	*Entandrophragma utile*
Veneer And Plywood - Decorative	Afrormosia	*Afrormosia elata - Pericopsis elata*
	Avodire	*Turreanthus africanus*

Veneer For Blockboard	Ceiba	*Ceiba pentandra*
Veneer For Plywood	Akasa	*Chrysophyllum spp.; C. albidum; C. giganteum; C. subnudum*
	Aprokuma	*Antrocaryon micraster*
	Bombax	*Bombax spp.; B. brevicuspe; B. buonopozense*
	Ceiba	*Ceiba pentandra*
Veneer/Plywood - Sliced/Rotary	African Walnut	*Lovoa klaineana = L. trichilioides*
Wagon Bodies	Ananta	*Cynometra ananta*
	Bompagya	*Mammea africana*
	Dahmoa	*Piptadenia africana = Piptadeniastrum africanum*
Woodware	Wawa	*Triplochiton scleroxylon*

5.0 PRIORITY AREAS FOR STANDARDISATION OF WOOD PRODUCTS

As an output of the plenary section of the inception workshop where all major stakeholders were represented, wood products for standardisation were extensively discussed. Finally furniture was chosen for standardisation for the domestic market with the classification indicated in table 4.

Table 4: Classification of furniture and other wood products by stakeholders

STORAGE	SEATING	SURFACING	SETS	OTHER
Bookcase Cabinet (furniture) Chest China cabinet Cupboard Dresser (Chest of drawers) Filing cabinet Hall Tree Sideboard Wardrobe	Bean bag bench Chair Couch Footstool Love seat Ottoman Recliner Settee Sofa Stool (type of chair)	Coffee table Desk End table Folding table Table	Bedroom set (group) Dinette (group) Dining set (group)	Aquarium furniture Bed Door furniture Headboard Hutch Park furniture Stadium seating Street furniture

In order to work within limited resources and also ensuring quality work, furniture types were prioritised based on the findings of civil society, consumers, producers' and the technical committee and the following products were selected for export and domestic market respectively (table 5). Since draft grading rules have already been developed for the major secondary wood products for the export market which were being revised, developing further for ratification, other wood products which were not covered were selected for the export market. The domestic market was limited to tables, chairs and bedsteads as recommended by the committees and other stakeholders. This was to augment other Ghana standards in operation.

Table 5: Selected wood products for standardisation

EXPORT	DOMESTIC
• Mouldings/Profiles	• Chairs
• Parquet/Flooring	• Tables
• Furniture Parts	• Bedstead
• Profile Board	• School Furniture
• Dowels	

A contract was therefore awarded to Timber Industry Development Division of the Forestry Commission of Ghana in collaboration with the Ghana Standards Boards to develop the standards.

6.0 CONCLUSION

There is a general decline in wood supply to the local market although the annual allowable cut has been increased by 25%. This has been attributed to industry making maximum use of the wood for export while neglecting the local market quota.

The domestic users require about 384,730 m^3 lumber annually but could only obtain about 152,660 m^3 per year from the sawmill in the form of falldowns and export rejects. This state of affairs was cited as responsible for the astronomical rise in the cost of manufacturing furniture. There is therefore the need for policy review and implementation to ensure that adequate raw materials are available for the domestic users.

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