

# Sustainable Trade of Wood and Wood Based Products in India



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## FOREWORD

Wood is a versatile renewable material with low carbon footprint, coming from the forests and trees outside forests. Mankind has used wood since time immemorial for house construction, furniture, agricultural implements, transport vehicles, and above all as fuel for house hold needs. India has made impressive economic growth and that has also lead to increase in consumption of wood and wood products. Deficit in production of wood is being met from the imports, causing a drain on foreign exchange reserves. During the last decade, there is increased focus on raising tree outside forests (ToF) under agroforestry and farm forestry systems, as envisaged in the National Forest Policy, 1988 and National Agroforestry Policy of 2014.

Wood based industries (WBIs) in India is an “unorganized” sector and include furniture, handicrafts, composite wood, plywood, paper, packaging and printing material and toys. This sector has immense potential to develop a green and self-reliant India, under the special economic stimulus package announced by Hon’ble Prime Minister, under the AtmaNirbhar Bharat Abhiyan and Make in India initiatives.

A large number of WBIs are sourcing the wood raw material largely from the trees raised by the farmers and partly from forests and imported timber. The wood used for manufacturing products for exports and even for domestic consumption should ideally come from the **certified forests/ToF** in view of the rising concerns about sustainability and legality of wood.

Forests and the Trees outside Forests have a great potential to contribute towards achieving SDG goals and our international commitments for climate change mitigation and adaptation, biodiversity conservation and land restoration.

The NCCF policy paper titled “Sustainable Trade of Wood and Wood Based Products in India”, authored by Mr. A. K. Bansal, a veteran professional forester and his team, discusses various key aspects and challenges related to the wood based industries in India and also suggests policy initiatives necessary for the development of this significant sector. We sincerely acknowledge this great initiative and firmly believe that as a country we need to integrate the concept of “Grow more wood-use more wood” in our developmental and environmental priorities.



January 21, 2021

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## Acknowledgements

The research derives from my association with wood based industries during my 37 years career as an Indian Forest Service with the Government of Odisha, and the Government of India, especially as Director IPIRTI, Bangalore from 1997 to 2003. As Additional Director General of Forests, Ministry of Environment and Forests (now MOEF&CC), Government of India from 201-2012 I had an opportunity to look after the policy matters related to all aspects of forest sector including the wood based industries.

Consequent to my superannuation from Government service, I got fresh opportunity to interact with wood based industry as FSC-FM lead Auditor, and also in the course of my association with the Network for Certification and Conservation of Forest (NCCF). As the Chairperson, NCCF-PCA-Working Group I am more closely associated with the wood and wood products sector, including exports and imports.

I place on record my thanks to all colleagues at NCCF, and professionals for their inputs and in enhancing my insight into this very complex and important sector of development, that has assumed greater significance due to its role in mitigation the adverse impacts of climate change while meeting the needs of the growing Indian economy.

I am extremely grateful to the NCCF for agreeing to publish the report as NCCF Policy Paper.



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26<sup>th</sup> January, 2021  
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## Abbreviations

BIS	Bureau of Indian Standards
CAGR	Compound Annual Growth Rate
CARB	California Air Regulatory Board
CCF	Chief Conservator of Forest
CITES	Convention on international Trade in Endangered Species
CPWD	Central Public Works Department
CSE	Center of Science and Environment
cum	cubic meter
EPCH	Export Promotion Council for Handicrafts
EU	European Union
EUTR	European Union Timber Regulation
FSC	Forest Stewardship Council
FSI	Forest Survey of India
Ha	Hectare
Kg	Kilogram
ICFRE	Indian Council of Forestry Research and Education
IPIRTI	Indian Plywood Industries Research and Training Institute
IRS	Indian Remote Sensing Satellite
ISFR	India State of Forest Report
IPMA	Indian Paper Mill Association
IWST	Institute of Wood Science and Technology
IUFRO	International Union of Forest Research Organizations
JICA	Japan International Cooperation Agency
Mha	Million hectare
MDF	Medium Density Fiber board
MOEFCC	Ministry of Environment, Forests and Climate Change
NCCF	Network for Certification and Conservation of Forests
NFP	National Forest Policy
NGT	National Green Tribunal
NIC	National Industrial Classification
NMSA	National Mission on Sustainable Agriculture
NSSO	National Sample Survey Organization
PEFC	Programme for Endorsement of Forest Certification
PQ	Plant Quarantine
RFA	Recorded Forest Area
SEZ	Special Economic Zone
SLC	State Level Committee
SMAF	Sub-Mission on Agroforestry
TGA	Total Geographic Area
ToF	Tree outside Forests
UK	United Kingdom
USA	United States of America
UT	Union Territory
WBI	Wood based Industries

## 1. Introduction

Wood is one of the important produce coming from forests that are renewable natural resource. Mankind has used wood due to its versatility since time immemorial for housing construction, furniture, agricultural implements, transport vehicle, and above all a fuel for various house hold needs. The major consumption of wood in India is still in the form of fuel wood accounting for 75 % in the rural areas and 21.7 % in the urban areas (NSSO). It is estimated that about 270 million tons of fuel wood, 280 million tons of fodder, over 12 million cubic meter (cum) of timber and a range of non-wood forest products are extracted from the forests of India annually. Due to better understanding about the role of forests in ensuring environmental stability and maintenance of ecological balance including atmospheric equilibrium that are vital for sustenance of all life on the Earth, there has been a shift in timber centric management of natural forests and focus is more for their conservation and eco system services.

After economic reforms, India has made impressive economic growth in recent times, as evident from the rise in income of people. This growth is leading to increase in consumption of wood and wood products such as furniture, construction timber, paper etc. Reducing supplies from natural forests and rising demand of wood products has caused an large gaps between demand and supply. This has resulted in turn in increasing focus on production of timber and wood in non-forest areas also known as Tree Outside Forests under agroforestry and farm forestry systems, as envisaged in the National Forest Policy, 1988. Sizable quantities of timber and other wood products are also being imported, causing a drain on foreign exchange reserves. India is also exporting wood products like furniture, handicrafts items, wooden toys to niche markets in Europe, USA, Canada, Australia and some other countries.

In recent years, there is increasing global focus on sustainable forest management and USA, UK, EU countries are developing legally binding certification processes for trade of timber from sustainably managed forests/plantations, which is likely to have significant impact on international trade of forest products in future, including from India.

It is important to note that wood products are greener alternatives to substitutes that have higher embedded energy and other adverse environmental implications. Substituting a cubic meter of wood for other materials like cement concrete, steel, aluminium, plastics, results in the significant CO<sub>2</sub> savings. Moreover, the carbon sequestered during growth of trees remains locked in wood products. It is therefore necessary to increase the use of wood and wood products in all possible ways, in the construction and packaging industries, home/office

furnishing and interiors. In recent years there has been a positive shift towards use of wood products. Bamboo composites such as Bamboo Mat Board, bamboo wood, bamboo corrugated roofing sheets have been included by Central Public Works Department (CPWD) in Delhi Schedule of rates 2017 for various applications. In July 2020, CPWD removed the ban on use of timber in construction on the advice of the Ministry of Environment, Forest and Climate Change, which is bound to create additional demand for wood and wood products.

This NCCF policy paper discusses various key aspects related to the wood based industries in India and suggests policy initiatives necessary for the development of this important sector.

## 2. Forest & tree resources in India

India has 76.74 Mha that is 23.34% of its total geographical area (TGA) is “forest” as per the State records (ISFR, 2019). According to the latest State of Forest Report of the Forest Survey of India (ISFR, 2019), the forest cover<sup>1</sup> exists over 71.22. Mha which is 21.67% of TGA comprising of three categories viz. Very Dense Forests (2.6%), Medium Dense Forests (9.6%), and Open Forests (9.1%). The forests are managed as per the provisions of working plans approved by the Regional Offices of the MOEFCC. However, the forests of India are under severe anthropogenic pressure due to growing demands for forest products by the people living in and around forests, and huge cattle population and most of this extraction/production from forest is largely unrecorded. The per capita forest area in India is only 0.05 ha which is only one-tenth of the world average (0.52 ha) and the productivity of India’s forests is also low (0.7 cum/ha/year) compared to the world average at 2.1 cum/ha/year). National Forest Policy, 1988, brought in policy shift towards using forests for conservation, eco system services. The envisaged the forest-based industries to raise the raw material needed for meeting its own requirements, preferably by establishment of a direct relationship between the factory and the individuals, and to encourage farmers to grow tree species required for industries. This policy shift caused enhanced focus on ‘Trees Outside Forests’ (ToF), particularly agroforestry, to reduce pressure on forests and to meet the needs of the people in respect of wood and wood products. According to ISFR 2019, notionally 2.89% of TGA of the country is under tree cover<sup>2</sup>, generally known as trees outside forests (ToF) but actually it forms a part of ToF<sup>3</sup>.

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<sup>1</sup> Forest cover has been estimated by FSI based on interpretation of IRS-Resourcesat-2 and LISS III satellite data of 2017-18 and includes all patches more than one ha in area, with a tree cover density of more 10% irrespective of ownership and legal status, and includes orchards, bamboo, and palm.

<sup>2</sup> Tree cover comprises of tree patches of size less than one ha occurring outside the recorded forests. It includes trees in all formations, including scattered trees. Tree cover is estimated using a sampling based methodology wherein high-resolution satellite imagery is used for stratification.

<sup>3</sup> Trees outside forests refers to all trees growing outside recorded forest area (as per boundaries

Exact and authenticated data on extent of agroforestry in India are wanting. There have been several assessments reporting widely varying estimates. FSI in its biennial forest cover assessment in IFSR 2015 included a chapter on “Trees in Agroforestry Systems in India” where in total green cover in the agroforestry system in the country was estimated to be 11.12 Mha (3.39% of TGA) with a total growing stock of 1022.85 million cum. The chapter also has species wise number of trees and volumes and also State-wise and Physiographic zone-wise tree green cover area, growing stock, and carbon stock. This assessment was based on ToF inventory data of rural areas in 179 sampled districts during 2006 to 2012) covering block and scattered formations and excludes linear stratum (road/railway and canal sides?) and private forests. However, in 2013 area under agroforestry was estimated to to be 25.32 Mha (8.2% of TGA) based on an analysis of secondary data. This comprises of 20 Mha in cultivated lands [7.0 Mha in irrigated areas (11.23% of total irrigated areas) and 13.0 Mha in rain fed areas (16.54% of total rain fed area)], 5.32 Mha in other areas such as shifting cultivation, home gardens and rehabilitation of problem soils (Dhyani et al. 2013)

Recently FSI has published Technical Information Series Vol. 2. No. 1 titled “Tree Outside Forest Resources in India” wherein extent of ToF in the country is reported to be 29.38 Mha (8.94% of TGA) comprising of tree cover 9.5 Mha and Forest cover outside RFA 19.88 Mha with Growing stock of 1642.29 million cum and potential annual yield of 85.16 million cum. The report also has estimated number of tree and volume of top 20 species in Rural and Urban areas. The most important species in rural areas that are important for wood production include *Mangifera indica*, *Acacia arabica*, *Eucalyptus*, *Tectona grandis*, *Hevea brasiliensis*, *Grewia oppositifolia*, *Dalbergia sisso*, *Populus spp*. Bulk of the growing stock is in scattered form (61.5%), followed by block formations (31.74%), and a small part (only 0.65%) is in linear stratum. (FSI, 2020)

### 3. Production of Industrial Wood <sup>4</sup>

Reliable statistics on industrial wood production and consumption are required for planning, policy-making, analysis and decision-making at National and State levels. Main sources of production of industrial round wood are forests and ToF. In the national resource accounting while computing the contribution of forest sector is reported under category “Forestry and logging”. Value of Industrial wood from Forests is calculated using the formula “production \*

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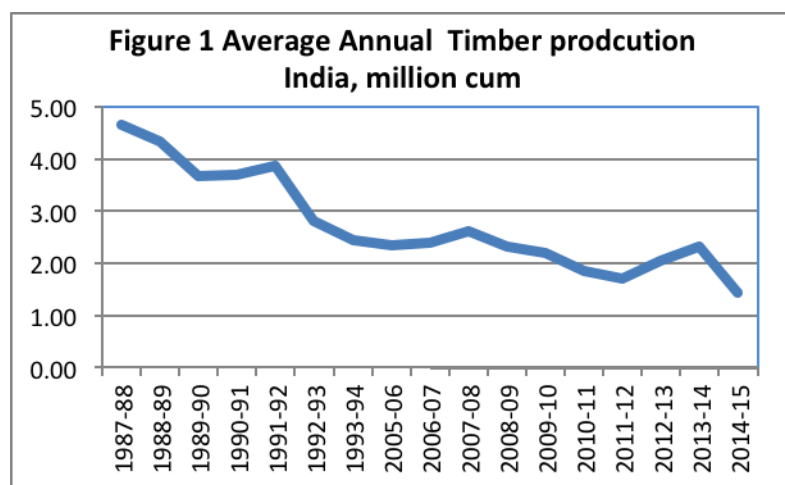
furnished by the States, and the areas under green wash in Survey of India topo sheets.

<sup>4</sup> Excludes fuel wood and small timber used in rural housing etc.

current year price\*1.1”<sup>5</sup>. Computation of production of Industrial Wood from Trees outside forest is based on ToF growing stock estimated by FSI. However, value of “Industrial Wood from Forest and Trees outside forest” is reported as one item. According to the National Accounts Statistics 2020 the average annual growth of value of industrial wood from forest and ToF during 8 year period from 2011-12 to 2018-19 was 5.7% at constant prices.

### 3.1 Production of industrial round wood from forests

At national level, Indian Council of Forestry Research and Education (ICFRE) published “Forestry Statistics India, in 1995” including State/UT wise production of timber. Average



recorded timber production for the period 1987-88 to 1991-93 was 4.04 million cum. Subsequently, state wise recorded timber production from 2005-06 to 2009-10 was compiled in the Forest Sector Report, 2010 according to which average annual production of timber was 2.37 million cum. According to the

recently published Forest Sector Report, 2019 the average annual recorded production of timber from 2010-11 to 2013-14 was 1.94 million cum. However, all these compilations do not include production of all the States/UTs due to non-reporting by some states/UTs, actual production might be slightly higher, but the reducing trend clearly reflects the shift in policy gradually moving towards conservation of natural forests and their management for ecological stability and eco-system services. Moreover, some timber produced

State	Annual Timber production (cum)	% of total national production
Uttar Pradesh	3,85,441	17
J & K	3,44,700	15
Himachal Pradesh	2,45,083	11
Madhya Pradesh	2,35,456	10
Uttrakhnad	2,18,739	9
Kerala	1,79,759	8
Chhatishgarh	1,51,631	7
WB	1,32,733	6

<sup>5</sup> Presuming unrecorded production to be 10% of the recorded production

might also be from unknown sources including illegally harvested and and reclaimed wood. At present, five highest timber producing states are Uttar Pradesh, J&K, Himachal Pradesh, Madhya Pradesh, and Uttrakhand.

It is clear that timber production from forests is going to be limited and will only meet a small portion of the total estimated consumption and bulk of the industrial wood requirement will be met from ToF areas. Therefore, efforts need to be made to enhance cultivation of tree species required by the wood based industries under various agro forestry systems with a view to gradually reduce imports of wood logs to the extent possible.

### **3.2 Production of industrial wood from ToF**

There is no official estimate of the amount of annual wood production from ToF. According to a study by Center of Science and Environment in 2017 the total wood requirement was estimated to be 68.9 million cum (49 Million cum for construction, furniture etc., 8.47 million cum for plywood and panel products, 15.52 million cum for paper and paperboards)<sup>6</sup> the availability was 70.9 million cum: 3.175 form forests, 44.34 form ToF, 5.38 from bamboo, 18.01 from imports. (Shrivastava S. and Ajay K. Saxena, 2017)

A High Level Expert Group constituted by the XV finance Commission it is report submitted in July 2020, mentioned that in 2017 total consumption of wood was 65 million cum of which 3 million cum was produced from forests, around 47 Million cum was produced from plantations (mainly agro forestry systems), and balance 15 million cum was imported (Anon, 2020). This clearly brings out the fact that around 25% of the demand for industrial wood is met from imports. Of the balance met with through domestic production around 94% is from ToF, primarily from Agroforestry.

### **3.3 Promotion of Agro Forestry**

Agroforestry is important to achieve the national goal of bringing 1/3 of TGA under forest/tree cover and also for meeting the demand for industrial round wood. Moreover, it provides additional and assured income to farmers and reduces their vulnerability to crop failures due failure of monsoons. It also has huge potential to contribute to national resolve to double farmers' income.

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<sup>6</sup> Maharashtra and Uttar Pradesh had the largest share in the domestic consumption of timber wood, with little over 30% combined, in 3 major industrial sectors for wood consumption – House construction, Furniture and Agricultural implements (FSI, 2011).

One of the factors inhibiting the growth of agroforestry has been perceived to be restrictive transit regulations under the forest laws. Bansal committee constituted by MOEFCC in July 2011 to study the '*regulatory regime regarding felling and transit regulations for tree species grown on private land*' recommended for exemption preferred tree and bamboo species by farmers and not naturally available in neighbouring forests from transit permit and felling regulation, authorizing Gram Sabha to regulate felling and transit of trees/timber grown under agro-farm forestry or private lands in the village in respect of those species which are preferred by farmers which are found in the natural forests/forests, evolving common regional strategy for simple uniform mechanism/ procedure to regulate the transit rules of forest produce, to evolve transparent and simple methodology for maintenance of records of tree plantation on private lands to maintain a dynamic resource inventory. (MOEFCC, 2012)

India enunciated 'National Agroforestry Policy' in 2014, first such policy anywhere in the world. The basic objectives of the National Agroforestry Policy include to encourage and expand tree plantation in integrated manner with crops and livestock to improve productivity, employment, income and livelihoods of rural households, especially the small holder farmers, to protect and stabilize ecosystems, and promote resilient cropping and farming systems to minimize the risk during extreme climatic events, to meet the raw material requirements of wood based industries and reduce import of wood and wood products to save foreign exchange.

The Sub-Mission on Agroforestry (SMAF) under National Mission for Sustainable Agriculture (NMSA) is being implemented since 2016-17 to promote tree planting on farmlands. The scheme is being implemented in the 20 States and 2 UTs which have liberalized transit regulations for selected tree species {Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana and Uttar Pradesh and UT of Jammu & Kashmir and Laddakh}. SMAF seeks to promote various agroforestry practices/models suited to different agro ecological regions and land use conditions by planting trees on farmlands, peripheral and boundary plantations. This will also create additional income opportunities for farmers while contributing to mitigation of climate change impacts. So far, about 1500 nurseries have been raised, and 1,34,11,964 seedlings have been planted covering 18758 ha ([www.nmsa.gov.in](http://www.nmsa.gov.in) accessed on 4<sup>th</sup> January 2021)

Tree plantation in private lands continues to be promoted under various state programmes and schemes. Agro Forestry is also a component under externally aided projects assisted by JICA (e.g. Tree cultivation in private lands in Tamil Nadu Biodiversity and Greening Project, Odisha Forestry Sector Development Project). In addition to government efforts paper mills are also promoting cultivation of selected tree species, viz. Eucalyptus clones, Casuarina,

Subabul, in several states including Andhra Pradesh, Karnataka, Odisha, and Telangana. Some of these plantations are also certified under internationally recognized forest certification schemes.

#### 4. Wood Based Industries

A Standard Industrial Classification system all economic activities, now called National Industrial Classification (NIC), was evolved in 1960 by the Central Statistical Organization, Ministry of Statistics and Programme Implementation, and has been periodically revised. The latest revision was done in 2008 in consonance with the latest United Nations International Standard Industrial Classification Rev. 4. Under NIC 2008 - Division 2 - Forest and logging deals with silviculture and other forestry activities, forest nurseries, logging, gathering of non-wood forest products, and support services to forestry (forest management consulting, forest inventory, timber evaluation). The economic activities which use wood as raw material are covered mainly in division 16, Division 17, as given in the table below:

**Division 16, Manufacture of wood and products of wood and cork, except furniture,** includes the manufacture of wood products, such as lumber, plywood, veneers, wood containers, wood flooring, wood trusses, and prefabricated wood buildings. The production processes include sawing, planning, shaping, laminating, and assembling of wood products starting from logs that are cut into bolts, or lumber that may then be cut further, or shaped by lathes or other shaping tools. The lumber or other transformed wood shapes may also be subsequently planed or smoothed, and assembled into finished products, such as wood containers. With the exception of sawmilling, this division is subdivided mainly based on the specific products manufactured. This division does not include the manufacture of furniture (included in 3100), or the installation of wooden fittings and the like (included in 4330).

**Division 17 Manufacture of paper and paper products** includes the manufacture of pulp, paper and converted paper products.

1610	Saw milling and planing of wood including unassembled flooring, parquet flooring, railway sleepers,
1621	Manufacture of veneer sheets, plywood, laminboard, particle board, and other panels and boards
1622	Builders' carpentry and joinery (excluding unassembled flooring) including structural wooden goods e.g. beams, rafters, roof struts, glue-laminated and metal connected, singles and shakes, and prefab buildings and elements thereof.
1623	Wooden containers including wooden boxes, barrels, packing



	cases, plywood chests, basketry, grain storage bind etc. made of bamboo and reeds.
1629	Other products of wood and articles of cork, straw, and plaiting materials – including wooden industrial goods, agricultural implements, articles of bamboo, cane and grass, articles of leaves of palm, dhak, pine, khajoor, and articles of veg. fiber.
2826	Wooden spool, bobbins,
31001	Furniture made of wood
31002	Furniture of cane and reed.
32401	Dolls and toys, including those of wood
1701	Pulp, paper, and paper board
1702	Corrugated paper and paper board and container thereof
1709	Other article of paper and paper board

Of the various wood based industries Paper industry is in the organized sector, and all other industries such as saw mills, plywood and panel manufacturing, furniture, handicrafts, toys are largely in the small-scale or “unorganized” sector. Majority of wooden furniture, joinery, and other household products are made to order by small workshops or individual artisans. In recent years larger firms are increasing in number, to serve both the export and growing domestic market for wood furniture and other wooden items. The Indian wood industry, artisans, and other wood users are accustomed to teak and other hardwoods and consumers also have a strong preference for dark tropical woods. Teak is typically seen as a benchmark with respect to grade and price, as compared to other wood species. Familiarity with woods other than those found in India and certain tropical hardwoods is low.

Major imported wood species are Meranti, Teak, and Pines. Domestic farmed and plantation timber includes teak, Eucalyptus, Poplar, Melia dubia, and Acacia spp. India imports small quantities of temperate hardwoods such as ash, maple, cherry, oak, walnut, and beech for commercial and home interiors and furniture, some of which is made for export, and import of wood and sawn timber are expected to continue to increase. Sawn timber imported from Finland, Canada and some other European countries may be largely certified since in these countries major forest areas are covered under PEFC Forest Management Certification.

#### 4.1 Paper Industry

At the time of Independence, there were about 17 mills with a annual production capacity of 0.14 million tons. The paper industry has undergone phenomenal growth since then. In 2109-20, the member industries of the Indian Paper Mill Association (IPMA) had total installed capacity of 4.8 million tons of paper and paper boards and capacity utilizations was

close to 90%. The total installed capacity of the industry has grown at a compounded annual growth rate of 6 per cent over the past decade. Although the paper industry comprises a number of small scale mills, relatively large mills continue to contribute to a sizable share of total production.

With increasing standards of living the per capita demand of is continuously increasing although it continues to be low by global standards. In 1995, the per capita consumption stood at 3 kg and by 2003 it was just 5 kg and in 2013 it was 9.3 kg compared to even other Asian countries such as Indonesia (at 22 kg) and China (at 42 kg). Production growth for paper and paper boards has been lower than the increase in demand, necessitating imports.

<b>Table 3: Average Import value (2015-16 to 2019-20)</b>		
<b>HS Code</b>	<b>Item</b>	<b>Million US D</b>
4801	Newsprint	822.03
4802	Uncoated paper and paper board for writing /printing	358.15
4803	Toilet /facial tissue paper	12.05
4804	Uncoated kraft paper and paper board	154.25
4805	Uncoated paper/paper board	123.60
4808	Corrugated paper /paper board	6.53
4810	Coated paper/paper board	620.64
The total volume of the above products during 2019-20 was 2.99 million tons Source: Ministry of Commerce, <a href="https://tradestat.commerce.gov.in/eidb">https://tradestat.commerce.gov.in/eidb</a>		

The government heavily supported the paper industry's increasing raw material needs by offering raw materials (bamboo and wood) at extremely low rates from state forests. However, the change in NFP in 1988 regarding supply of raw material to Industry and pressure from environmentalists and increasing fear of an impending raw material crunch by the industry changed the fiber sourcing patterns in the country. Most of the paper mill switched over hardwoods, that too farm grown, as the main raw material CSE paper industry report 2013 mentions that on the whole, government forests contribute to only 13 per cent of the total share of wood and bamboo sourced.

Over the last two decades, paper industry has been in the forefront in promoting tree cultivation of pulp wood species by farmers under agroforestry models, including clonal plantations, extending over an estimated 125,000 ha that has also contributing to tree cover in the country, apart from creating employment in rural areas in close proximity of

manufacturing facilities. At the current estimate, wood based segment of the paper industry uses 80 per cent of the total requirement from farm produced wood.

To make the farm forestry plantations (part of ToF) productive as well as viable, industries like ITC, JKPM, IP-APPM came forward to establish farm-industry partnerships. These agencies invested huge resources in R&D for genetic improvement and clonal propagation of high-yielding and disease resistant plants of short rotation tree species, that are suitable for fuelwood, fodder and pulpwood. Many such plantations are FSC certified. Some species are also suitable for veneering and manufacturing plywood.

#### 4.2 Wood based panel industries

Panel industry comprises plywood, Particleboard, medium density fiber board (MDF), and constitutes an important sector of wood based industry. Indian Plywood & Panel Industry consists of around 3,300 units (small, medium and large units) largely, ~80%, in unorganized sector and has 6-7% CAGR and supports around 1 million livelihoods with a market size of app. Rs. 25,000 Crores. Century Plyboards India Ltd. and Greenply Industries Ltd. are the two pan India companies dominating the organized market with more than 50% share.

There are about 30 particle board industries in the country mostly in unorganized sector except few, and use plantation timber lops and tops, wood wastes and agro residue as the basic raw material with an annual production of about 1 million cum.

The MDF industry sector has installed capacity of about 1.4 million cum and production is 1.15 million cum (80% of installed capacity). Indian MDF industry has a market size of nearly 1,600 crores. In the past five years, the industry grew at a CAGR of 20%.

Table 4 (Pandey & Roy, 2020) gives the production of wood based panels in last three years. Whereas core veneers are made from domestically produced plantation wood, face veneers are largely imported mainly from Indonesia, Gabon, Myanmar, and China. For block board in-fills in addition to domestic fast growing plantation timbers imported pinewood is also used.

Product	Quantity (Million cum)		
	2017	2018	2019
Plywood (including block boards)	8.93	9.50	10
Particle Board, Oriented Strand Board and similar boards	1.07	1.14	1.2
High/medium Density Fiber Board	0.89	0.95	1.0

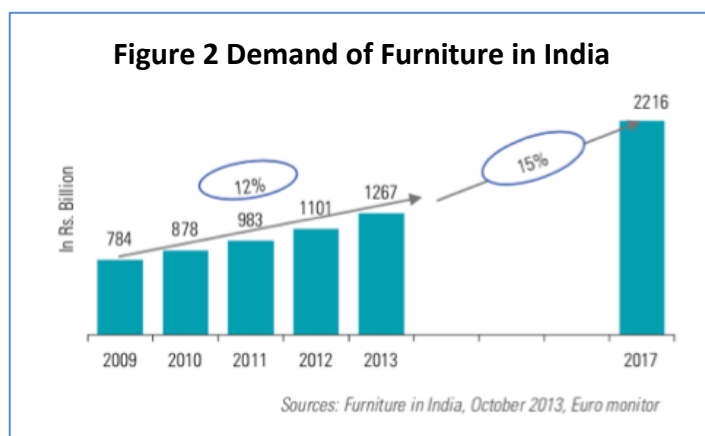
To meet the meet domestic demand panel products are also imported (Table 5) largely from Indonesia, Malaysia, Thailand, and China.

Items	2018-19	2019-20
Plywood (Million cum)	0.29	0.41
Particle Board, Oriented Strand Board and similar boards (Million Tons)	0.16	0.19
High/Medium Density Fiber Boards (Million Tons)	0.20	0.19

### 4.3 Furniture and handicrafts industry

India’s furniture and handicraft sector is largely in the unorganized sector and most wooden furniture, joinery and household products are made to order by small workshops or individual artisan, constituting 85-90 of the total sector. There is virtually no data on the SMEs and artisans except that there are few well known furniture/ handicraft clusters in Saharanpur, Jodhpur, Channapatna etc.

Indian wooden handicrafts are in demand world wide for their beautiful designs. Most common species used in handicrafts are Teak, Sheesham, Mango, Mahagony. Some highly expensive items are made of Sandalwood, Rosewood, Walnut, and Oak. Some well known craft clusters are in Saharanpur (Uttar Pradesh) for intricate wood carving, Rajasthan for colourful Kathputlies (wooden puppets), Hoshiarpur (Punjab) for wood inlay and lacquer work, Natungram (West Bengal) for wooden dolls based on mythology and folklore, Channapatna (Karnataka) for wooden toys for children using vegetable colours protected as a Geographical



Indicator under WTO, Mysore (Karnataka) for wall plates, table tops etc. rosewood inlay work, Madhya Pradesh – tribal masks.

Teak is reportedly the most commonly used species in wooden furniture production in India. Artisans working in the furniture and handicrafts sector are accustomed to and prefer teak and other hardwoods that are perceived to be more resistant to termites and

decay. Indian consumers traditionally have strong preference for dark tropical woods. Teak is typically seen as a benchmark with respect to grade and price, as compared to other wood species. It is estimated that as much as half of the wooden furniture made in India uses teak; 30 percent is from mango, sheesham, mahogany, and cedar; and roughly 20 percent from sal.

A recent report based on independent research and analysis done by KPMG Advisory Services Pvt. Ltd. prepared for the for National Skill Development Council mentions that India's absolute consumption of furniture is very high, although the per capita consumption is low as compared to other countries, largely due to huge income disparity but having an increasing trend. Demand for furniture in India surged at 12% annual rate over 2007-2012, and in 2013 it increased at a rate of 15%. According to 68<sup>th</sup> round of NSSO data, 50% of employment in the furniture sector is in West Bengal, Uttar Pradesh, and Maharashtra.

Marked by increasing customer preference for readymade, branded furniture, the market is moving more towards organized segment. Preference is tilting towards high-end, maintenance, easily installable products, with customization options. Demand for ready to assemble furniture is resulting in higher use of engineered wood in furniture manufacturing. Simple, contemporary designs are preferred over heavy, complex traditional furniture.

The High Level Expert Group constituted by NITI Ayog in its report of July 2020 (Anon., 2020) mentions the following about wooden furniture industry:

Furniture market in India is dominated by the un-organized sector constituting around ~85% of the market, and home furniture is the largest segment in the Indian furniture market, accounting ~65 percent of sales.

Wood based furniture constitutes around ~65% of the total furniture sector. Use of solid wood is around 80%, and balance 20% materials used are Plywood, Particle Board and Medium Density Fiberboard.

Preference is tilting towards high-end, low maintenance, quickly installable (knock down) furniture with customization options.

Market is moving towards technology advancement but majority production coming from unorganized players, they can't afford latest technology and machinery.

The Government of India presently allows duty free import of furniture for all the SEZs and STPIs. A sales tax of 14.5% is being imposed for transactions with local players. This incentivizes import rather than local buying, which is adversely affecting sectoral growth.

The report suggests the following related to wood/timber:

“Subsidizing light mechanization of unorganized sector along with design, branding and marketing linkage to reduce wastage and improve cost effectiveness, functionality, and quality furniture manufacturing in the country. This would also increase demand for wood based panels (MDF and PB)

Promote MDF and PB manufacturing industries in the country as they provide critical raw material for mechanized furniture production in organized sector.

Improved availability of solid wood/timber in the country through organized and aggregated plantations, to reduce high end solid wood furniture imports

Furniture should be considered as a necessity good and GST should be reduced for this sector.

Growing the demand linked species on institutional land by implementing a Public Private Partnership model where quick returns are not anticipated

Need to link/streamline plantation species and management systems in Forests and Forest Development Corporations (FDCs) with industry and market demand requirement”

A study by FICCI in May 2020 mentions that India is uncompetitive in furniture because of raw material competitiveness, scale of operation, and in-efficient logistics but has a great opportunity to be among the top 3 global manufacturers and exporters due to Low cost labour advantage, Cost competitive in Cotton fabric (textiles), Differentiated furniture design capability (though at a lower scale), and India is a preferred location by top global furniture buyers like IKEA. It recommends setting up furniture hubs in selected SEZs. The report also suggests short term and long term measures. According to a recent study by Tandon and Tewari, 2019 (<https://www.livemint.com>) the Indian domestic furniture market is expected to grow at an annual rate of 12.9 percent during the period between 2020 and 2024.

#### **4.4 Other Wood based Industries**

**Match Industry:** The major raw materials used in the production of safety matches are soft woods used to make the match sticks (also known as “splints”) and boxes. Bulk of the wooden match production in India is in handmade small-scale (67%) and cottage (15%). The only one unit representing the mechanized sector, namely M/s Wimco Ltd. contributes about 18% of current match production with factories in several states. Annual requirement of wood in India was around 2 lakh cum. Wimcos initiated plantations of Poplar for matchboxes and splints. However, the species is now mainly used in plywood and panel industry. As much as 44% of all the wood used in match production goes into the production of matchboxes. Gradually, cardboard boxes have substituted wooden boxes and wax instead of wooden splints

have resulted in major reduction in wood utilization. Now several species including *Ailanthus* spp. *Albizia falcataria*, *Boswallia serrata*, *Alnus Havea brasillensis*, *Ceiba pendandra*, *Melia dubia*, Bamboo, *Simarouba glauca*, *Gmelina arborea* are used. Widespread use of gas lighters at home and to an extent, increased awareness on the harmful effects of smoking and its ban in public spaces have also reduced the demand for match boxes.

**Wooden Catamarans:** Sizable quantity of wood is required every year for making catamarans in the coastal states in the country. Catamarans are non mechanised fishing crafts used for catching the fish in large scale in water bodies. The simplest type of fishing craft may be taken as the one formed by a few curved logs of wood joined together forming a kind of floating raft. Four types of catamarans are prevalent in Indian waters, namely the Orissa type, Andhra type, Coromandal type and Kanyakumari type. To enhance service life of wooden catamarans IWST, Bangalore has developed methods comprising seasoning followed by treatment with Copper Chrome Arsenic. In recent years wooden catamarans are getting replaced with other materials including plastics and fiber glass.

**Textile industry:** Traditional looms made of wood are extensively used in the handloom sector in many states in the country. Similarly, wooden bobbins, spindles, spools are used in power looms and textile industry in various parts of the country.

**Musical instruments:** Flute is a typical Indian musical instrument made from bamboo. Rosewood (*Dalbergia latifolia*) and red sander (*Pterocarpus santalinus*) are used in manufacturing musical instruments.

Wood based industries have huge employment generation potential in various activities across the supply chains starting from tree plantation for growing wood, manufacturing of engineered wood products e.g. plywood, laminated and finger jointed wood, Particle boards, MDF, and production of joinery items, door shutters furniture etc. for domestic needs as well as for exports and can immensely contribute in the Atma Nirbhar Bharat Abhiyan under which GOI has planned various reforms and measures for the revival and long term sustainability of MSMEs. Moreover, the species grown under agroforestry systems are largely fast growing and such timber require continuous research for developing processing technologies to manufacture reengineered products and final consumer products, addressing the inherent characteristics of the fast growing plantation timbers. Effective demonstration of new technologies is also necessary to facilitate adoption by the industry. Since wood based industries are largely MSMEs and in the unorganized sector the R&D is to be funded by the Government with an effective model for enlisting the support of the industry.

## 5. India's international trade of wood and wood products

India is a net importer of wood and wood products. The average import and export values in last four years (Table 6) reveals that major products imported are wood in rough, Sawn wood, Sheets for plywood (veneers), particle boards, and Fiber boards. Exports are in respect of wooden furniture and such other manufactured products, primarily of solid wood.

HS Code	Item	Average value in million USD during 2016-17 to 2019-20	
		Imports	Exports
4401	Fuel wood, wood chips, saw dust etc	22.77	0.05
4402	Wood charcoal	4.94	28.75
4403	Wood in rough	1,113.69	49.77
4404	Hoopwood, drawn wood etc	0.06	0.22
4405	Wood wool	1.84	0.04
4406	Rly sleepers	0.08	0.05
4407	Sawn wood	389.39	8.26
4408	Sheets for plywood	236.01	18.98
4409	Wood strips	33.13	3.11
4410	Particle board	37.24	4.69
4411	Fibre board	103.76	22.46
4412	Plywood	105.26	31.70
4413	Densified wood	3.71	0.50
4414	Wood frames	0.82	17.60
4415	Packing cases	12.43	13.16
4416	Casks, barrels etc.	1.90	0.14
4417	Wood doors etc.	1.89	6.95
4418	Builder joinery frames	48.87	14.74
4419	Table/kitchen ware	4.54	14.92
4420	Inlaid wood work	1.27	31.88
4421	Other wood articles	21.05	174.41
940330	Wooden furniture office	66.34	33.49
940340	Wooden furniture kitchen	26.51	1.07
940350	Wooden furniture bedroom	65.88	11.13
940360	Other wooden furniture	147.16	484.46



Figure 3 reflects the gradual growth of exports of wood products from India.

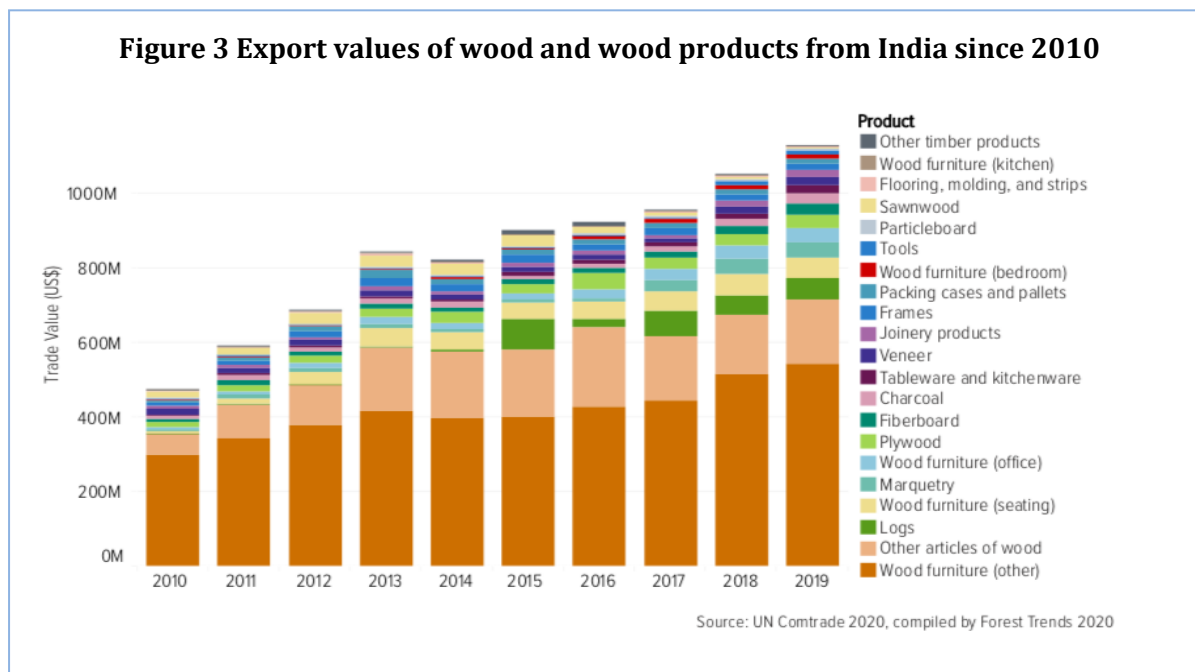
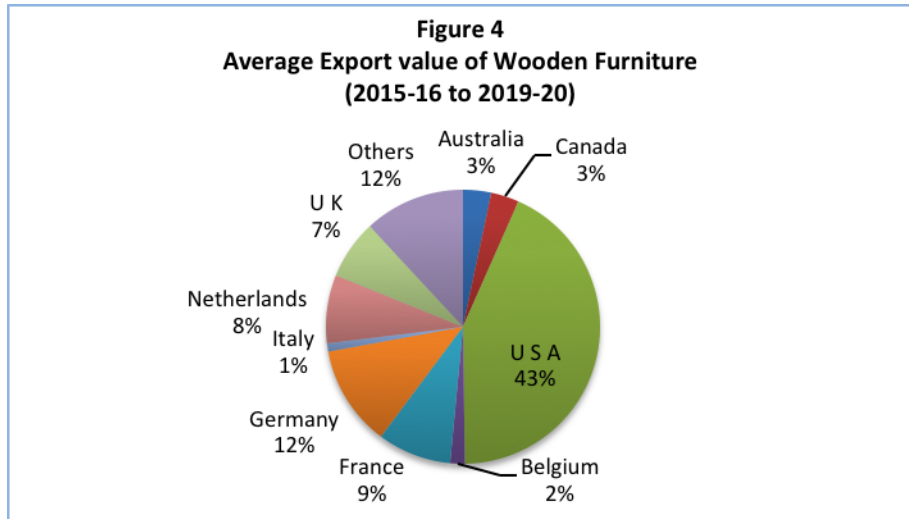


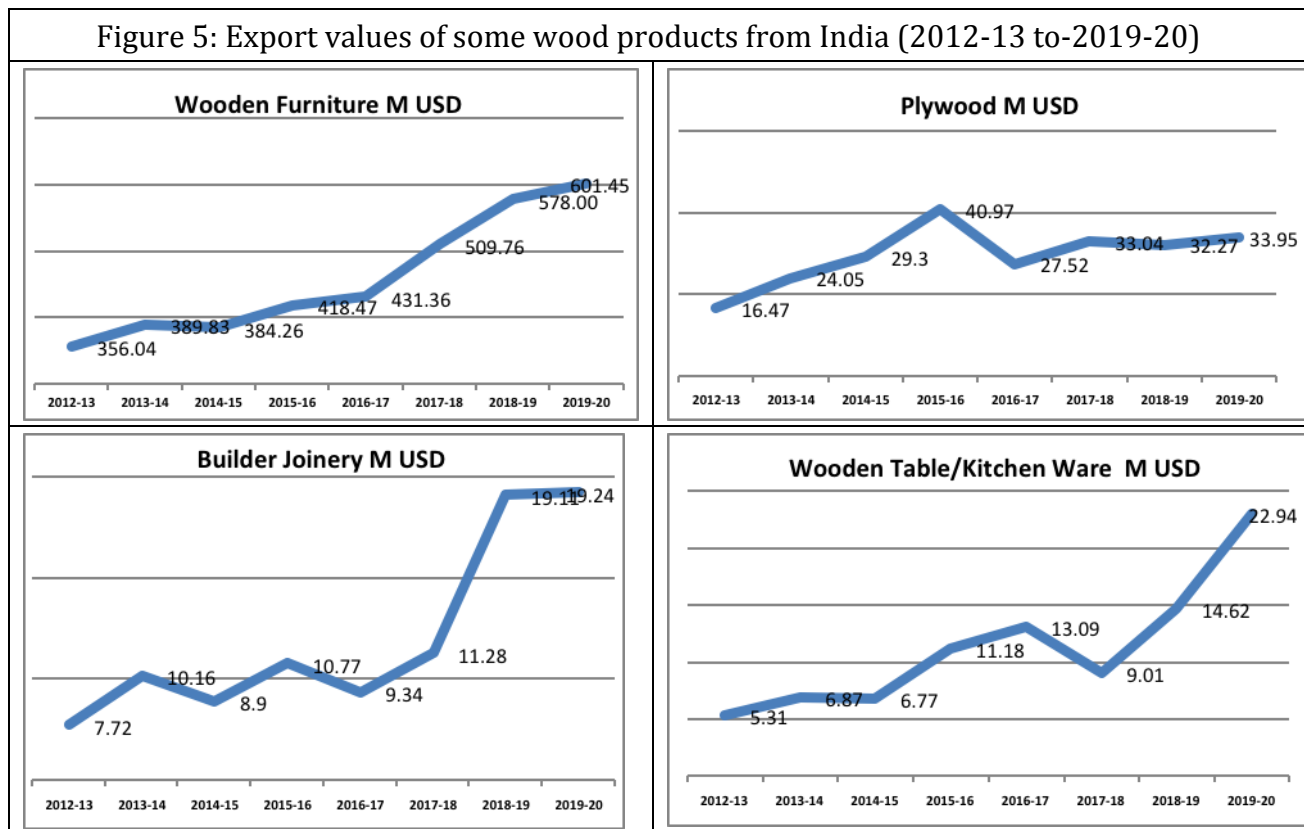
Table 7 shows the quantities of important wood and products imported during 2014-14 to 2017-18. It seems increased imports of sawn timber in recent years have been prompted by better processing quality compared to quality of processing by domestic sawmills.

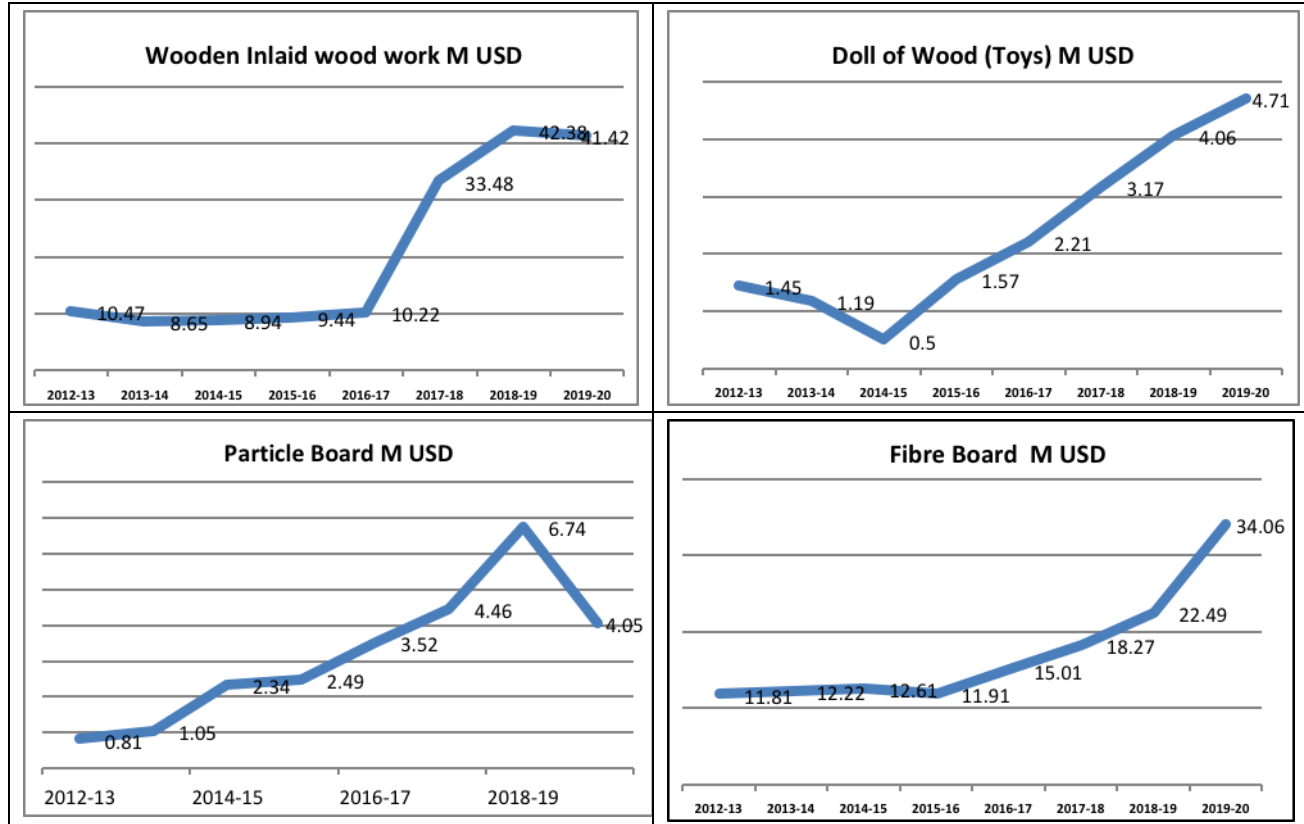
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Wood in Rough	1000 cum	6,112	5,622	4,703	4,878	4,962	4,439
Sawn wood	1000 cum	605	764	709	1,045	1,238	1,716
Veneer sheets	Tons	204,406	289,518	312,187	325,562	312,015	292,163
Plywood	Tons	204	182	159	231	289	412
Bamboos	Tons	1,092	980	1,166	975		
Particle board	Tons	113,189	113451	123,508	111,805	160,522	185,696

Although India has been a net importer of wood and wood products, in some products, primarily made from tropical Indian hardwoods including teak, mango, sheesham, it is net exporter due to niche markets in some countries. Also, exports have gradually increased with diversification in product lines as well as markets, although more than 80% of the total export continues to be to niche markets in developed countries namely USA, Canada, Australia, Belgium, France, Germany, Italy, Netherlands, and United Kingdom (Figure 4).



Although the export values of various manufactured wood products are low but there is an increasing trend in last few years, as is also evident from the charts below:





## 6. Regulatory regime

### 6.1 Establishment of wood based industries

Supreme court in their order dated 5<sup>th</sup> October, 2015 ordered for constituting state level committees (SLC) in each state under the chairmanship of the Principal Chief Conservator of Forest with a representative of MOEFCC and an officer of the State Forest Department/Industries department not below the rank of CCF /equivalent rank, and authorized the MOEFCC to issue guidelines in conformity of its orders and directions relating to assessment of timber availability for WBIs and grant of license/permission to the WBIs including addition of machineries. In pursuance of the above orders of the Apex court MOEFCC vide SO 3456(E) dated 11<sup>th</sup> November 2016 issued WBI (establishment and Regulation) Guidelines 2016, and issued amendments vide SO 3000 (E) dated 11<sup>th</sup> September 2017, and SO 995(E) dated 22<sup>nd</sup> Feb, 2019 (pursuant to NGT's order dated 13<sup>th</sup> August 2018).

Under these guidelines WBI means any industry which processes wood as its raw material (Saw mills/Veneer/plywood or any other form such as Sandal, Katha wood, Charcoal etc.). Paper industries, included in the original guidelines of November 2016 were excluded from the

definition in September 2017. These guidelines provide for constitution of SLC headed by PCCF & HOFF in each state which is required to assess availability of timber in the state through an appropriate demand and supply study and devise suitable mechanism for sustainable use of timber in a way that does not affect the forest adversely, and approve grant of fresh license or enhancement of the existing licensed capacity subject to its satisfaction about availability of timber legally. No license to a WBI is to be granted or renewed without prior approval of the SLC.

However, licensing is not required for industries/processing plants not using round logs of domestic origin or operating without a band saw or re-saw or circular saw of more than 30 centimeter diameter viz. Industries/processing plants which use (a) sawn timber, cane, bamboo, reed, plywood, veneers or imported wood, procured from legitimate sources, (b) block board, MDF or similar wood-based products, procured from legitimate sources, (c) round log/timber from species declared as agro-forestry/agricultural crops and/or exempted from the purview of the felling and transit regime in the concerned state/UT, and procured from legitimate sources. Such industries are required to be registered with the Forest Department of the concerned state/UT and regulated as prescribed by the concerned State/UT. The SLC of the concerned State may allow installation of circular saw of diameter up to 60 centimeter in such industries having specialized requirement. The guidelines also contain annual requirement of round logs for sawmills of different capacities, and timber requirements for other WBIs.

The guidelines require all WBIs to follow environmental and other applicable regulations prescribed by the State Pollution Control Board, Central Pollution Control Board, and MOEFCC under Environment Protection Act, 1986 and other Central/State Acts.

## **6.2 Regulations related to Export & Import of wood and wood products**

Illegal logging is considered to be one of the key drivers of deforestation, harming the environment, endangering biological diversity and aggravating climate change impacts. Many developed countries including EU and Australia, have put in place stringent verification process for legality verification for import of wood and wood products. Although India strongly supports sustainable forest management, and is signatory to all conventions related to climate change and biodiversity, wood and wood products can be imported into India without verification of legality (certification) or quantitative restrictions, except when species attract CITES provisions. It has been reported that India is the third largest importer of the

illegally logged timber<sup>7</sup> in the world, and accounts for close to 10% of the global illegal wood trade (IUFRO, 2016).

The basic customs duty is also very low compared to the bound rates – 5% for wood products and logs under HS code, 4401, 4402, 4403 and 10% for other manufactured wood products under HS code 4404 to 4421, as well as paper and paper boards etc. under chapter 48. The basic customs duty on wooden furniture and other such items is 25%, and on wooden toys (HS code 95030010) it is 60%.

However, any species of hardwoods/softwoods (logs/lumber) not listed in the Indian Plant Quarantine Schedule VI and VII are prohibited from import in India. An important non-tariff regulation on import of timber logs wood into India under Plant Quarantine (PQ) order 2003 enforced by the Directorate of Plant Protection, Quarantine and Storage under the Ministry of Agriculture, Cooperation and Farmers Welfare (MOAFW) regulates the import of timber logs into India. *According to this the timber/wood with or without bark shall be fumigated prior to export with methyl bromide at 48 g/cum for 24 hours at 21 degrees Celsius or above, or an equivalent thereof, or any other treatment approved by the Plant Protection Adviser, Government of India. Similarly, any shipment of timber or sawn or sized wood with or without bark prior to export must be either fumigated with methyl bromide at 48 g/cum for 24 hours at 21 degrees Celsius or above, or an equivalent thereof, or kiln dried or heat treated at 56°C for 30 minutes.* The treatment shall be endorsed on the Phyto-sanitary Certificate issued at the country of export or re-export. However, since methyl bromide is toxic and classified as a class 1 ozone depleting substance, there is a need to prescribe alternate treatment regime.

For exports of wood and articles of wood under chapter 44 of HS code from India also No Objection Certificate from the Plant Quarantine Department may be required.

At the CITES CoP17, held in September/October 2016, the entire genus *Dalbergia* spp. (except for Brazilian rosewood (*Dalbergia nigra*), which is listed in Appendix I), was put under Appendix II. Consequently, each shipment of products made from wood from *Dalbergia* genus (including sheesham and rosewood) would require a CITES permit. This has serious implications for India as bulk of wooden furniture and handicraft items exported from India are made from *Dalbergia sissoo*, whose management is regulated under the Working Plans. India has already filed a reservation against the above decision of CoP 17. The Ministry of Environment and Forest, the CITES Management Authority, has designated the Export Promotion Council for Handicrafts (EPCH) as the competent authority to issue the comparable document in lieu of the CITES permit for handicraft products made from *D. sissoo* and *D.*

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<sup>7</sup> Wood harvested in violation of the laws and regulations in the source country.

latofolia<sup>8</sup>. EPCH is issuing such certificates under its VRIKSH timber legality and certification standard following the prescribed procedure. In a subsequent CITES CoP in 2019, voted to exempt finished musical instruments, parts and accessories made with rosewood from requiring CITES permit.

It is important to note that more than three-quarters of India's timber products are exported to the countries that now have laws in place to restrict import of illegal wood and forest products. These include European Union Timber Regulation (EUTR)<sup>9</sup>, Lacey Act of USA<sup>10</sup>, Australia illegal Logging Prohibition Act, 2012<sup>11</sup>, and California Air Regulation Board (CARB) certificate (formaldehyde emission from wood composites). To avoid the potential decline of export of wooden furniture and other wood products to these countries from India it is necessary put in place a system to facilitate issuance of document (similar to the one issued for CITES compliance) acceptable under the regulations of the importing countries.

CARB has approved a regulation to reduce formaldehyde emissions from composite wood products that are sold, supplied, used, or manufactured for sale in California. The regulation focuses on hardwood plywood, particleboard (PB), and medium density fiberboard (MDF). Under this any export of these products from India to USA requires CARB certificate. At present there is no recognised lab in India for testing formaldehyde emission, due to which exporters are facing problems as the samples are to be sent to USA or China for conformity assessment. It is learnt that IPIRTI is in the process of getting its testing facility recognised.

Importers that are non-compliant with these laws risk enforcement actions including fines, penalties and prosecution, while Indian suppliers risk losing out to other countries that can provide the legal assurances requested. This includes the United States and the EU, but also in Australia, Indonesia, Japan and some other countries. Buyers in these markets, as well as Indian exporters looking to maintain market access are therefore exposed to the risks

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<sup>8</sup> Vide F. No. 4-07/2017/WL dated 3<sup>rd</sup> March 2017

<sup>9</sup> EUTR, applicable to both imported and domestically produced timber and timber products, prohibits the placing on the EU market for the first time of illegally harvested timber and products derived from such timber and requires EU traders who place timber products on the EU market for the first time to exercise due diligence for the supply chain of each individual shipment to their country.

<sup>10</sup> The Lacey Act is a 1900 United States law that bans trafficking in illegal wildlife. In 2008, the Act was amended to include plants and plant products such as timber and paper. This landmark legislation is the world's first ban on trade in illegally sourced wood products.

<sup>11</sup> The Act makes it a criminal offense to intentionally, knowingly or recklessly import wood, pulp and paper products into Australia or process Australian raw logs that have been illegally logged. It also outlines that businesses must undertake 'due diligence' on certain regulated processes.

associated with India's imported timber products". Indian furniture manufactures use tropical hardwood species sourced either from forests, ToF areas or through imports but practically there is no verification and certification system in vogue although now an Indian Certification Scheme developed by NCCF and endorsed by PEFC is available for Forest Areas, and the certification standards for ToF (first of its type in the world) has been developed and process for endorsement by PEFC in underway. Moreover, NCCF is also in the process of developing 'Safeboards Standard" for voluntary certification of composites wood/bamboo products with formaldehyde emission levels at par with relevant international standards.

There is therefore a need to put in place specific measures to verify that India's imported raw materials and domestic wood used by wood based industries are legally sourced or come from forests/ToF areas. It needs also to ensure that India continues to supply wooden furniture and other products to its niche markets in developed countries and also access new markets for the growth of domestic wood based industries. It would also be worth considering import duty concession on import of wood, sawn wood, and other wood products that are used for re-export after value addition (through handicrafts/manufacturing) in selected SEZs.

## 7. Conclusion and recommendations

It is important to note that the draft NFP, 2018 includes provisions for increasing productivity of forest plantations and forest management, intensive scientific management of forest plantations of commercially important species like Teak, Sal, Sheesham, Poplar, Gambhar, Eucalyptus, Casuarina, Bamboo to address poor productivity of these plantations, encouraging agro-forestry and farm forestry through commensurate incentives and operational support systems, establishing systems for certification of improved planting material, promotion of cultivation, harvesting, transportation and marketing of wood by relaxing the existing felling and transit regime, institution of a credible certification process which can provide premium on the products and enhance value of forest product harvested sustainably, setting up of a forum for interaction and collaboration for forest-based industries with forestry institutions and concerned stakeholders to create demand for trained professionals in the sector

From the foregoing discussion, it is evident that there is a need for greater focus on production and use of wood as a Carbon Negative multi purpose product and its production system is highly cost effective CC migration strategy. To meet India's International commitments relating to mitigation of climate change impacts and achievement of key sustainable development goals, it is a national imperative to evolve a **national wood use policy** to promote use of wood, in housing & construction, and other important development sectors in all possible ways with continuous research for development of processing

technologies, accelerated adoption of available technologies, and skill development to bridge the gaps. A national wood use policy is also necessary to realize the full potential of wood based production systems involving optimum use of scarce land resources, skilled/semi skilled manpower, and contribution of wood based industries in green development.

Moreover, since natural forests are increasingly sought to be managed to safeguard the ecological and livelihood security of people based on sustainable management of the forests for the flow of ecosystem services, the wood required to manufacture wood products required by various have to be produced either through increasing area under commercial plantations with higher productivity or through tree cultivation outside forests, primarily through various agro forestry systems.

The following recommendations emerge from the analysis of current situation of consumption and production of “wood products”:

**A. Promotion of Agroforestry:** Agroforestry needs to be integrated with the concept of “Grow more wood use more wood”. Agroforestry also generates significant employment opportunities and is perhaps the only alternative to meet the target of increasing forest/tree cover of India to 33%, as envisaged in the National Forest Policy of 1988, from the present level of about 25%. Agroforestry also has proven potential to mitigate the climate change effects through sequestration of atmospheric carbon in the long run. Some important actions for effective implementation of the National Agroforestry Policy in true spirit:

1. A rapid assessment of potential regions/areas for growth of wood based industries like Yamunanagar, Saharanpur, Jodhpur, Chanpatana (Karnataka), and critical analysis of policy and legal regimes to remove the impediments to the growing of required tree species (including bamboos) by farmers.
2. Quick analysis of resources in existing Agroforestry rich areas like Punjab, Haryana, and areas around paper mills (Andhra Pradesh, Telangana, Odisha) and other wood based industries. This needs to include species wise growing stock and sustainable annual harvests, and supply chain of timber/wood produces in these areas with a view to remove the bottlenecks if any, and creating better market linkages through a system of tracking and traceability of wood so as to target international markets.

One possibility is to create a system of registration of trees with species on a online platform and issuance of Certificate of Origin to facilitate smooth movement of



wood/timber across the country with traceability to the source as a proof of legality (eventually creating ground for certification).

3. Farmers grow trees primarily for commercial reasons and are at times discouraged due to uncertainty and lack of uniformity in felling and transit regulations across the country. Though MoEF&CC has issued guidelines in 2014 requesting states/UTs for easing their felling and transit regulations for trees grown on non-forest/private lands. Liberalizing the transit regulation of selected species is a pre-requisite for GoI funds under SMAF. However, Government of India needs to create a conducive atmosphere for tree cultivation and wood trading for the benefit of farmers/tree growers as well as wood based industries by bringing in uniform regulatory system across the country, in case deregulation is not possible, to facilitate ease of harvesting from agro forestry plantations and smooth movement of farm grown timber.

Creating a system for incentivising Agroforestry as envisaged in the National Agroforestry Policy. The registration of trees as suggested above will also facilitate that.

1. Supporting the formulation of independent third party certification system for certification nurseries. Establishment of certified nurseries for production of QPM of species required by tree growers/farmer in different regions.
2. Supporting continuous research to develop appropriate processing technologies for utilizing fast growing plantation woods (as they have inherent characteristics widely different from those of long rotation Indian tropical hard wood species found in forests) for manufacturing quality intermediate reengineered/composite material and consumer products, and development of required machinery and equipment, and extension efforts for adoption of newer technologies by the Industry.

#### **B. Enhancing use of wood products:**

Despite the fact that alternates/substitutes of wood products like iron, steel, cement, aluminium, are produced from non renewable resources, have very high embedded energy and have serious adverse environmental impacts, they are preferred compared to wood products due largely to lack of awareness about the positive environmental impacts of wood products due to strong marketing. It is necessary to provide positive policy push for greater use of wood products in key growth sectors for green/sustainable development. Some suggested actions in that direction include:

- 1) Bringing in “sustainability” in public procurement policies to promote wood products in construction, housing and other such sectors and promote environmentally responsive consumerism. Government should promote and mandate ‘Green Public Purchasing’ (GPP) for procurement of wood products by government departments and agencies through Government e-Marketplace. GPP of wood and wood based products will not only ensure sustainability of the natural resources but also set an example for the industries in the country to shift towards a greener and resource efficient supply chain.
- 2) Inclusion of wood as an important subject in the courses in "Civil Engineering" and for “Architects” as environment friendly material compared to the high energy consuming alternates like steel, aluminium, cement, etc.
- 3) Establish wood markets across India (in each state): The existing markets for wood and wood based products are insufficient in India to meet regional and national wood production and consumption demands. New markets and trade mechanisms, with appropriate market information system for fair and transparent wood trade (as well as to prevent exploitation of farmers), need to be devised to establish more wood clusters in multiple states across the country. Establishment of new markets and revamping the wood supply chains will bring wood markets close to farms and forests and facilitate sustainable wood supplies.

Bansal Committee (2012) had also recommended that State Forest Departments/ Forest Development Corporations are required to play a facilitative role by working out modalities for (i) technical support and assured supply of good quality planting materials, (ii) in making buy back arrangements (for timber) with industries and (iii) in creating organized timber markets (mandies), where farmers/ tree growers can bring their produce for selling.

### **C. Addressing Policy gaps in wood commerce:**

1. **Productive use of degraded lands:** There are sizable lands in various stages of degradation that can be and need to be brought under productive use by raising plantations of suitable tree species in a mission mode. However, this has not been possible so far due to lack of enabling policy provisions and that such lands under Revenue departments are perhaps under encroachment and there are no specific incentives for tree cultivation over wastelands and fallow lands available with farmers. In the case of degraded forest lands, such areas continue to remain unattended due to grossly inadequate budgetary allocation to the forestry sector by the GoI and the States (even the approved working plan are not being implemented in totality), although attempts have been made several times for involvement of private sector through Public

Private Partnership model but a real and serious attempt is still to be made addressing the concerns of all stakeholders.

2. **Efficient production of quality timber by Forest Development Corporations:** The management of forest areas that have been given to forest development corporation for commercial plantations need also be reviewed and necessary follow up action taken to enhance the wood production and productivity these areas for timber required by the wood products industries to reduce imports. Additional forest lands suitable for plantations of timber species may be considered for management by FDCs to enhance production of timber, in partnership with Wood Based Industries.
3. **The Export-Import (EXIM) Policy,** especially related to wood and wood products in many cases tend to support imports and restrict exports. Although some efforts are made from time to time to restrict imports (e.g. recent duty increase on agarbatti sticks from 10% to 25%), facilitate exports (e.g. VRIKSH timber legality and certification standard by EPCH), it is necessary to have a comprehensive analysis, of the EXIM policy, customs duty regime on imports, as well the non-trade barriers and make it supportive to the growth of domestic wood based industries. Such an analysis should involve key stakeholders in the process. In most wood products prevalent customs duties are much below the bound rates under WTO and there is a scope to revise the customs duty to encourage domestic industry. It is necessary to permit/allow import of wood logs, sawn timber and other wood products made from wood sourced from certified forests or through some alternate verification system to restrict the import of illegal timber. This will also directly help the farmers in getting better prices of farm-grown legal/certified wood, and encourage wood based industries to improve product quality.
4. **Qualitative improvement in WBIs:** GoI has recently enhanced the investment/turnover limits for MSME sector and the Ministry of MSME has launched a scheme that provides for reimbursement of expenses in the acquisition of ISO 14001 certification. These steps would enable bigger players to enter the sector and encourage the smaller units to upgrade their quality of wood products to remain competitive. Although there are voluntary standards brought out by BIS for some manufactured products actual production as per these specification is very low. To enhance the competitive strength of SMEs, the WBI sector may be deregulated by repealing/amending the WBI (establishment and Regulation) Guidelines 2016 and making use of certified timber obligatory along with adherence to minimum product quality standards to ensure efficient utilization of timber and other resources by the WBIs.
5. **Promote Credible Forest Certification process in India:** Many developed countries are

putting stricter non-trade barriers, including certification of legality, formaldehyde emissions from wood based composites (plywood and other panel products) and products made from them. It is necessary that the available Indian certification schemes having global recognition, such as those developed by NCCF and endorsed by Programme For Endorsement of Forest Certification are facilitated and promoted to enhance exports of wood products to their niche markets in the developed countries. Simultaneously, the wood products industry should be encouraged to adopt voluntary certification for domestic markets by making certification as a requirement in public procurement policies. It is important to note that recently the Prime Minister of India has revealed his 'Man ki Baat' that India should adopt global standards.

In the long run, Forest/ToF certification will ensure sustainable cultivation and harvesting practices for wood production and play a key role in promoting domestic and international trade in wood and wood products. The draft NFP, 2018 also mentions "*a Credible certification process can provide premium on the products, which can enhance value of forest product harvested sustainably. Adoption of appropriate certification regimes will be encouraged through phase wise adoption of compatible standards and institutional framework in forest management*".

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## References

- Anon. 1988, National Forest Policy of India.
- Anon., 2014, National Agroforestry Policy of India.
- Anon. 2020, Growing India's agricultural exports through crop-specific, state-led plans, High level Expert Group on Agriculture, Submission to the XV Finance Commission July 2020.
- MOEFCC, 2012, Report of the Bansal Committee on 'The regulatory regime regarding felling and transit regulations for tree species grown on non forests/ private lands'. Ministry of Environment & Forests, Government of India
- Dhyani SK, Handa AK, Uma, 2013, Area under agroforestry in India: An assessment of present Status and future perspective, Indian J. of Agroforestry, 15(1):1-11.
- FSI, 2019, India State of Forest Report
- FSI, 2020, Tree Outside Forest Resources in India, Technical Information Series, Vol. 2. No. 1.
- ICFRE, 1995, Forestry Statistics India
- ICFRE, 2011, Forest Sector Report, 2010
- ICFRE 2019, Forest Sector Report, 2019
- India's wooden furniture and wooden handicrafts: risks of trade in illegally harvested wood; Forest Trends' Forest Trade and Finance initiative, September 2020.
- IUFRO, 2016, Illegal Logging and Related Timber Trade – Dimensions, Drivers, Impacts and Responses. A Global Scientific Rapid Response Assessment Report, IUFRO World Series Volume 35, 148 p.
- KPMG, 'Human Resources and Skill requirement in the Furniture and Furnishing Sector (2013-17, 2017-22)'
- National Sample Survey Office (2014). Household consumption of various goods and services in India 2011-12. NSSO 68<sup>th</sup> Round. Ministry of Statistics and Programme Implementation, Government of India.
- Pandey C.N., and Sumit Roy, Plywood & Panel Industry in India, Current Scenario and key issues, in Wood is Good Vol. 1, Issue 1, Journal of Institute of Wood Science and Technology, Bangalore.
- Shrivastava Soujanya and Ajay K. Saxena 2017. *Wood is Good: But, is India doing enough to meet its present and future needs?* Centre for Science and Environment, New Delhi

## Annexure 1

Import Value Million USD									
HS Code	Item	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
4401	Fuel wood, wood chips, saw dust.	1.3	55.3	68.89	70.43	38.20	37.49	13.75	1.62
4402	Wood charcoal	0.52	4.27	6.92	7.04	0.58	0.91	13.23	5.03
4403	Wood in rough	2,098.23	2,016.62	1,880.44	1,487.13	1162.71	1289.50	1093.36	909.17
4404	Hoopwood, drawn wood etc	1.38	0.44	0.7	0.47	0.13	0.03	0.04	0.02
4405	Wood wool	1.47	0.21	0.66	0.35	1.15	2.02	1.93	2.25
4406	Rly sleepers	0.01	0.04	0.00	0.00	0.21	0.03	0.01	0.05
4407	Sawn wood	165.29	177.82	225.97	295.42	269.21	405.74	441.42	441.20
4408	Sheets for plywood	59.31	68.79	16.12	173.94	199.50	234.34	249.71	260.50
4409	Wood strips	16.23	14.63	5.67	16.28	24.38	33.41	36.33	38.38
4410	Particle board	58.1	40.6	31.45	36.15	33.17	32.28	40.01	43.50
4411	Fibre board	99.3	90.62	85.16	90.77	83.64	120.78	113.70	96.91
4412	Plywood	90.74	77.75	90.17	81.6	76.94	111.37	118.10	114.62
4413	Densified wood	5.4	3.97	3.15	3.68	3.63	4.09	4.39	2.73
4414	Wood frames	1.64	0.83	0.81	0.86	0.32	0.72	1.29	0.93
4415	Packing cases	10.42	12.66	11.4	10.84	10.83	12.72	12.25	13.93
4416	Casks, barrels etc	3.4	1.76	1.25	1.7	1.04	1.89	2.37	2.29
4417	Wood doors etc	1.16	1.48	1.53	1.27	1.04	1.42	2.14	2.94
4418	Builder joinery frames	52.72	53.87	46.33	48.26	45.32	51.11	55.32	43.73
4419	Table/kitchen ware	1.23	1.05	1.19	1.31	0.75	2.18	5.30	9.93
4420	Inlaid wood work	2.33	2.06	1.95	1.87	0.93	1.73	1.95	0.46
4421	Other wood articles	37.44	32.7	35.11	39.22	44.24	34.43	4.50	1.03
940330	Wooden furniture office	85.95	67.52	66.13	57.61	68.85	73.42	69.94	53.14
940340	Wooden furniture kitchen	18.27	16.98	18.79	17.56	25.13	27.83	28.19	24.87
940350	Wooden furniture bedroom	63.16	56.64	58.83	60.57	54.50	70.72	74.44	63.85
940360	Other wooden furniture	152.5	134.31	130.43	129.93	126.24	165.08	164.82	132.51
95030010	Dolls of wood (toys)	0.34	0.56	0.72	0.43	1.15	1.7	1.93	1.44

## Annexure 2

Export Value Million USD									
HS Code	Item	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
4401	Fuel wood, wood chips, saw dust etc	0.87	0.34	0.11	0.03	0.02	0.08	0.04	0.06
4402	Wood charcoal	12.19	14.12	21.69	7.61	13.11	12.38	25.69	31.81
4403	Wood in rough	1.95	3.91	2.1	85.83	45.29	42.61	90.52	20.64
4404	Hoopwood, drawn wood etc	0.42	0.56	0.45	0.41	0.29	0.21	0.21	0.17
4405	Wood wool	0.03	0.06	0.01	0.02	0.04	0.01	0.03	0.07
4406	Rly sleepers	0.47	0.4	0.02	0.06	0.14	-	0.02	0.00
4407	Sawn wood	31.27	27.41	31.41	25.38	17.81	7.81	4.49	2.92
4408	Sheets for plywood	15.89	13.3	15.44	14.34	15.39	16.35	22.71	21.46
4409	Wood strips	3.62	6.73	5.34	1.7	2.85	3.05	3.88	2.66
4410	Particle board	0.81	1.05	2.34	2.49	3.52	4.46	6.74	4.05
4411	Fibre board	11.81	12.22	12.61	11.91	15.01	18.27	22.49	34.06
4412	Plywood	16.47	24.05	29.3	40.97	27.52	33.04	32.27	33.95
4413	Densified wood	1.38	0.5	0.53	0.46	0.58	0.40	0.44	0.59
4414	Wood frames	13.74	20.79	18.85	23.29	17.09	19.85	17.15	16.30
4415	Packing cases	16.88	15.83	13.29	11.65	13.11	13.64	14.20	11.69
4416	Casks, barrels etc	0.11	0.09	0.03	0.22	0.18	0.11	0.21	0.04
4417	Wood doors etc	2.99	3.13	2.69	0.39	0.46	6.35	10.25	10.73
4418	Builder joinery frames	7.72	10.16	8.9	10.77	9.34	11.28	19.11	19.24
4419	Table/kitchen ware	5.31	6.87	6.77	11.18	13.09	9.01	14.62	22.94
4420	Inlaid wood work	10.47	8.65	8.94	9.44	10.22	33.48	42.38	41.42
4421	Other wood articles	119.06	161.11	165.61	188.32	197.59	169.18	163.31	167.55
940330	Wooden furniture office	15.7	18.79	13.03	17.94	24.86	33.70	35.18	40.20
940340	Wooden furniture kitchen	0.86	2.4	0.97	1.04	0.79	1.03	1.20	1.26
940350	Wooden furniture bedroom	3.16	3.81	4.96	8.69	10.69	10.58	9.67	13.57
940360	Other wooden furniture	336.32	364.83	365.3	390.8	395.02	464.45	531.95	546.42
95030010	Dolls of wood (toys)	1.45	1.19	0.5	1.57	2.21	3.17	4.06	4.71



NCCF, a Network for Certification and Conservation of Forests, was established in 2015, for augmenting globally aligned sustainable standards for natural resources and promote responsible usage. NCCF is constantly striving to improve environmental, economic and social aspects of sustainable management of natural resources with lower carbon and ecological footprints. NCCF is supported by multiple stakeholders including representatives of forest-based industries, government organizations, and qualified auditor to regime and quantify sustainable standards.

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