# The challenge of meeting India’s fast growing wood demand

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# A broad picture

- India's current annual wood demand is ~ 60 Mcum
- Total production of roundwood in India is ~ 47 Mcum per annum of which only about 2 Mcum comes from state forests where harvesting is severely restricted, remainder 45 Mcum comes from TOF
- India's imports of pulp rose from about USD 240 million in 2009 to USD 510 million in 2019, while wood and other wood products increased from USD 1,331 million to about USD 1,950 million over the same period

# India’s wood demand estimates 2016-2020 & projections 2021-2030 in roundwood equivalent

| Year | Pulp and paper | Furniture | Panels and plywood | Construction | Total |
|---|---|---|---|---|---|
| 2016 | 12.32 | 6.88 | 9.44 | 30.15 | 58.79 |
| 2017 | 12.36 | 7.63 | 9.00 | 28.90 | 57.89 |
| 2018 | 12.50 | 7.52 | 10.66 | 26.25 | 56.93 |
| 2019 | 12.50 | 8.01 | 11.24 | 26.25 | 58.00 |
| 2020 | 12.50 | 8.49 | 11.83 | 24.37 | 57.19 |

| Year | Pulp and Paper | Furniture | Plywood and other wood-based industries | Construction | Total |
|---|---|---|---|---|---|
| 2021 | 12.5 | 8.98 | 15.45 | 22.71 | 59.64 |
| 2022 | 12.5 | 9.47 | 17.88 | 21.79 | 61.64 |
| 2023 | 12.5 | 9.95 | 20.69 | 20.88 | 64.02 |
| 2024 | 12.5 | 10.44 | 23.94 | 19.96 | 66.84 |
| 2025 | 12.5 | 10.92 | 27.70 | 19.05 | 70.17 |
| 2026 | 12.5 | 11.40 | 32.06 | 18.14 | 74.10 |
| 2027 | 12.5 | 11.89 | 37.10 | 17.22 | 78.71 |
| 2028 | 12.5 | 12.37 | 42.93 | 16.31 | 84.11 |
| 2029 | 12.5 | 12.86 | 49.68 | 15.39 | 90.43 |
| 2030 | 12.5 | 13.34 | 57.49 | 14.48 | 97.81 |

**RWE=roundwood equivalent**

# Domestic production and international trade

| Product | Units | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Roundwood from state-owned forests | million $m^3$ | 2.18 | 1.89 | 1.78 | 2.07 | 2.39 | 2.2 | 2.09 | 2.2 | 2.16 | 2.15 | 2.17 |
| Roundwood from trees outside forests | million $m^3$ | 44.79 | 44.07 | 43.36 | 42.46 | 41.57 | 42.81 | 44.05 | 44.48 | 44.91 | 45.45 | 45.98 |
| Roundwood imported | million $m^3$ | 5.09 | 4.79 | 5.82 | 6.39 | 6.23 | 6.23 | 5.69 | 5.2 | 4.62 | 4.56 | 4.37 |
| Hoopwood imported | million kg | 0.35 | 0.42 | 0.6 | 1.45 | 0.46 | 0.38 | 0.29 | 0.12 | 0.11 | 0.04 | 0.02 |
| Sawnwood imported | million $m^3$ | 0.16 | 0.16 | 0.45 | 0.5 | 0.55 | 0.55 | 0.73 | 0.74 | 0.92 | 1.18 | 1.56 |
| Veneer sheets imported | million kg | 19.70 | 21.54 | 134.13 | 90.36 | 125.29 | 167.7 | 286.49 | 326.16 | 312.23 | 299.84 | 319.9 |
| Fibreboard imported | million kg | 94.06 | 165.52 | 183.15 | 192.26 | 203.70 | 168.16 | 180.00 | 210.71 | 268.33 | 296.38 | 266.62 |
| Plywood and panels imported | million $m^3$ | 0.20 | 0.28 | 0.40 | 0.31 | 0.20 | 0.20 | 0.19 | 0.17 | 0.20 | 0.25 | 0.46 |
| Sulphate pulp imported | million kg | 456.22 | 518.45 | 645.11 | 646.93 | 689.47 | 666.82 | 706.83 | 777.46 | 746.77 | 680.46 | 735.44 |
| Sulphite pulp imported | million kg | 1.76 | 1.73 | 2.46 | 1.68 | 34.26 | 25.05 | 1.64 | 1.00 | 1.96 | 3.16 | 1.64 |
| Round wood exported | million $m^3$ | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 |
| Hoopwood exported | million kg | 0.29 | 0.26 | 0.17 | 0.24 | 0.25 | 0.24 | 0.24 | 0.12 | 0.07 | 0.10 | 0.12 |
| Sawnwood exported | million $m^3$ | 0.02 | 0.02 | 0.02 | 0.05 | 0.05 | 0.03 | 0.04 | 0.02 | 0.01 | 0.01 | 0.00 |
| Veneer sheets exported | million kg | 20.25 | 15.69 | 9.54 | 6.91 | 3.68 | 7.38 | 5.15 | 6.07 | 3.78 | 13.84 | 10.44 |
| Fibreboard exported | million kg | 11.47 | 12.78 | 13.36 | 16.54 | 15.52 | 13.41 | 15.19 | 15.79 | 11.84 | 16.37 | 24.82 |
| Plywood and panels exported | million $m^3$ | 0.11 | 0.14 | 0.11 | 0.07 | 0.12 | 0.13 | 0.11 | 0.25 | 0.23 | 0.10 | 0.11 |
| Sulphate pulp exported | million kg | ≈0 | ≈0 | ≈0 | ≈0 | ≈0 | 5.47 | 14.74 | 8.35 | 1.66 | 1.49 | 2.04 |
| Sulphite pulp exported | million kg | 0 | 0 | 0 | 0 | ≈0 | 0 | 0 | 1.364 | 0.0015 | 0.0001 | 0.0017 |

# Trade in teak

| Year | Imports of teak | | Exports of teak | |
|---|---|---|---|---|
| | RW in rough (1000 $m^3$) | Sawn/ Chipped (1000 $m^3$) | RW in rough (1000 $m^3$) | Sawn/ Chipped (1000 $m^3$) |
| 2009 | 583.35 | 29.84 | 0.363 | 15.606 |
| 2010 | 647.75 | 36.72 | 0.462 | 7.149 |
| 2011 | 934.27 | 94.1 | 0.137 | 8.451 |
| 2012 | 996.94 | 55.98 | 0.321 | 9.178 |
| 2013 | 1,003.05 | 43.61 | 0.237 | 30.229 |
| 2014 | 928.05 | 45.83 | 0.719 | 6.479 |
| 2015 | 842.7 | 69.82 | 0 | 5.714 |
| 2016 | 816.37 | 71.86 | 0.083 | 2.918 |
| 2017 | 833.93 | 123.09 | 0.33 | 1.153 |
| 2018 | 1,074.87 | 130.72 | 0.505 | 1.006 |
| 2019 | 1,019.05 | 195.65 | 0.301 | 0.760 |

**RW= roundwood**

# Forest and tree cover is growing

ISFR 2021

- Forest cover 71.38 Mha (21.71%), Tree cover 9.57 Mha (2.91%)
- Growing Stock 4388.15 Mcum in forests and 1779.35 Mcum in TOF, av vol 56.60 cum/ha
- India’s forest and tree cover has been steadily increasing for nearly two decades,

# But decline in wood production from Govt forests

- Till 1970s roundwood production from Govt forests was 10-15 Mcum/yr
- Decline in production due to increased focus on conservation of forests under National Forest Policy, 1988, and SC orders
- Compounded Annual Growth Rate (CAGR) declined every year during the decade 1991 to 2000 in India,
  - by 0.70 for industrial coniferous roundwood, 1.15 for industrial non-coniferous roundwood,
  - 8.72 for coniferous sawnwood, 8.39 for non-coniferous sawnwood and
  - 5.09 for veneer

# Increasing Growing Stock within forests

- ISFR 2013 Growing Stock Forests - 4173.36 Mcum
- ISFR 2015 Growing Stock Forests – 4195 Mcum
- ISFR 2017 - Growing Stock Forests – 4218.38 Mcum,
- ISFR 2019 - Growing Stock Forests – 4273.47 Mcum,
- ISFR 2021 - Growing Stock in forests – 4388.15 M cum,

  increase of 104.68 Mcum in two years
- Assuming half the forests as too ecologically sensitive – WLS/NP, too steep etc - Atleast 50% of the remaining half should be available as timber, or about 26 Mcum over two years or 13 Mcum per year

# Sustainable harvesting protects forests & enriches rural economy

Harvesting followed by assisted natural regeneration/replanting creates employment in remote rural areas

Removes dead and insect infested trees from forests that are most fire-prone

Thinning provides repeat opportunities for such removals

With warming climate sharp increase in insect – bark beetles for example – on forest trees

An interesting development in the USA. The Infrastructure, Investment and Jobs Act has just been approved by the US Congress for one of the heaviest investment in the infrastructure of the USA and to create jobs at a massive scale. The Act includes $5.16 billion for hazardous fuels reduction and vegetation management, too!

# Concluding remarks

- We can sharply reduce our growing dependence on wood imports by sustainable harvesting in State Forests,
- removal of dead and dying
- Will also increase resilience of forests against fires
- And create rural jobs, boost rural economy

THANKS