

INNOVATIVE TECHNOLOGIES IN FORESTRY AND FOREST MANAGEMENT IN ASIA AND THE PACIFIC

“Rubberwood: Valuable Source of Plantation Grown Timber for High Value Added Products in Malaysia”



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AREAS OF PREVIOUS COLLECTIONS



Boim/Wickham, 1876

Amazonas

Acre

Rondonia

Mato Grosso

1876 – COLLECTION BY HENRY WICKHAM

1981 – IRRDB EXPEDITION

1995 – RRIM & BRAZIL EXPEDITION

Various *Hevea* spp (10 species)

H. pauciflora

H. spruceana

H. camargoana

H. rigidifolia

H. nitida

H. benthamiana

H. brasiliensis

H. guianensis

H. microphylla

H. camporum



BREEDING CHALLENGES

- **Breaking the yield barrier (can achieve 5000 kg/ha/yr)**
- **Reduction of Immaturity Period**
- **Disease Resistance and clones suitable for marginal areas**
- **Latex Quality (interspecific crosses)**
- **Wood Quality**

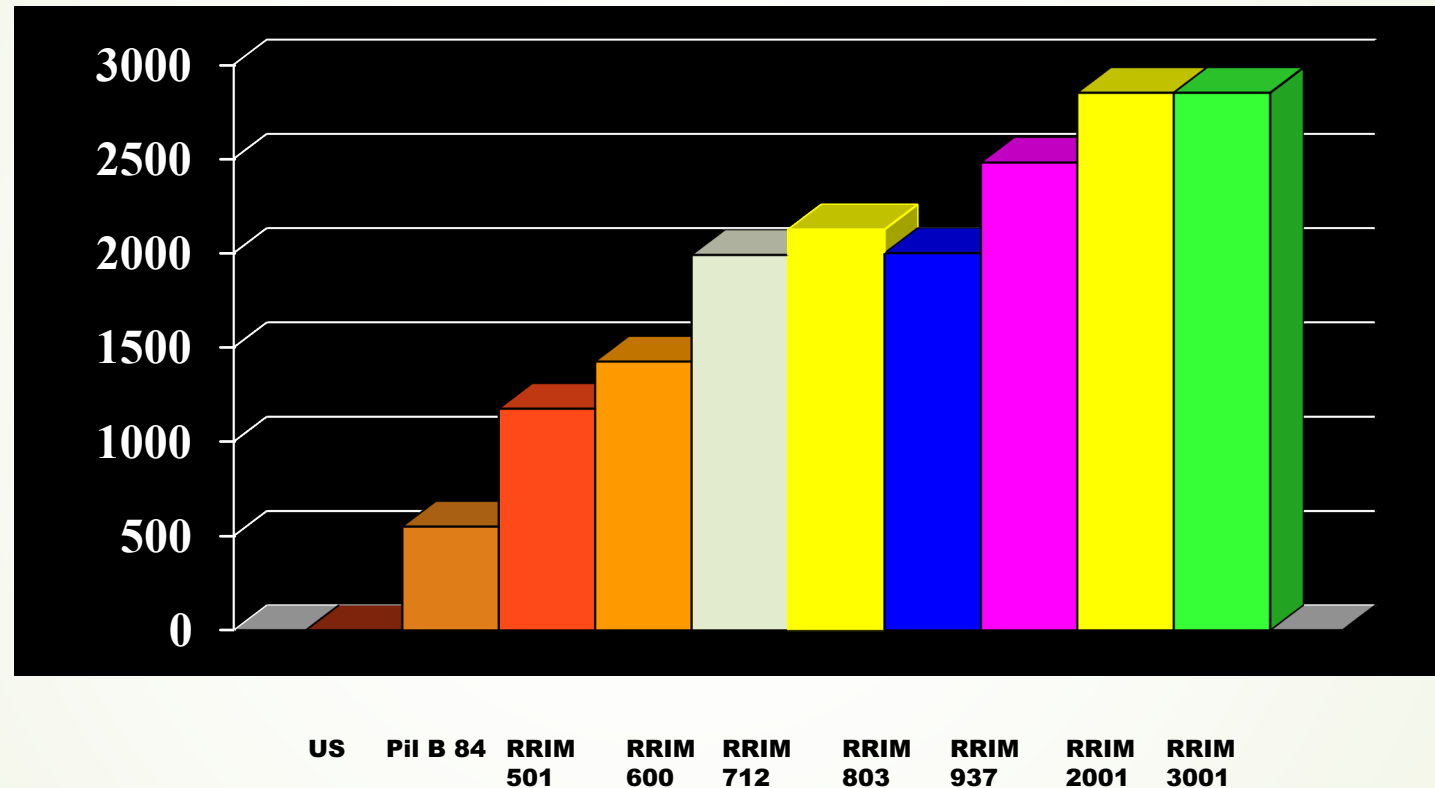
SUCCESS OF HEVEA BREEDING

- **Yield increases from 400 kg/ha/year to more than 3500 kg/ha/year with new clones**
- **Most effective cost reduction - increasing productivity per unit area**
- **From Latex Timber Clones (LTC) to Timber Latex Clones (TLC)**
- **Disease resistant clones**



Rubber Plantation 13/05/2008

Increase In Latex Yield Through Breeding



The increase in latex yield from 550 kg/ha/yr by the unselected seedling to 2850 kg/ha/yr by RRIM 2001 indicated the tremendous success of the RRIM rubber breeding programme

LATEX TIMBER CLONES (LTC)



TIMBER LATEX CLONES (TLC)



80% of high value furniture exported from Malaysia is made from rubberwood



70% of global natural rubber supply goes to the tyre industry. Airplane tyre comprised 95% natural rubber

CURRENT STATUS OF FOREST PLANTATION DEVELOPMENT PROGRAMME (MPIC/MTIB)

A PUBLIC – PRIVATE PARTNERSHIP

Program 2007-2022 (15 years)

Total Budget :RM1.04 billion (USD250 million)

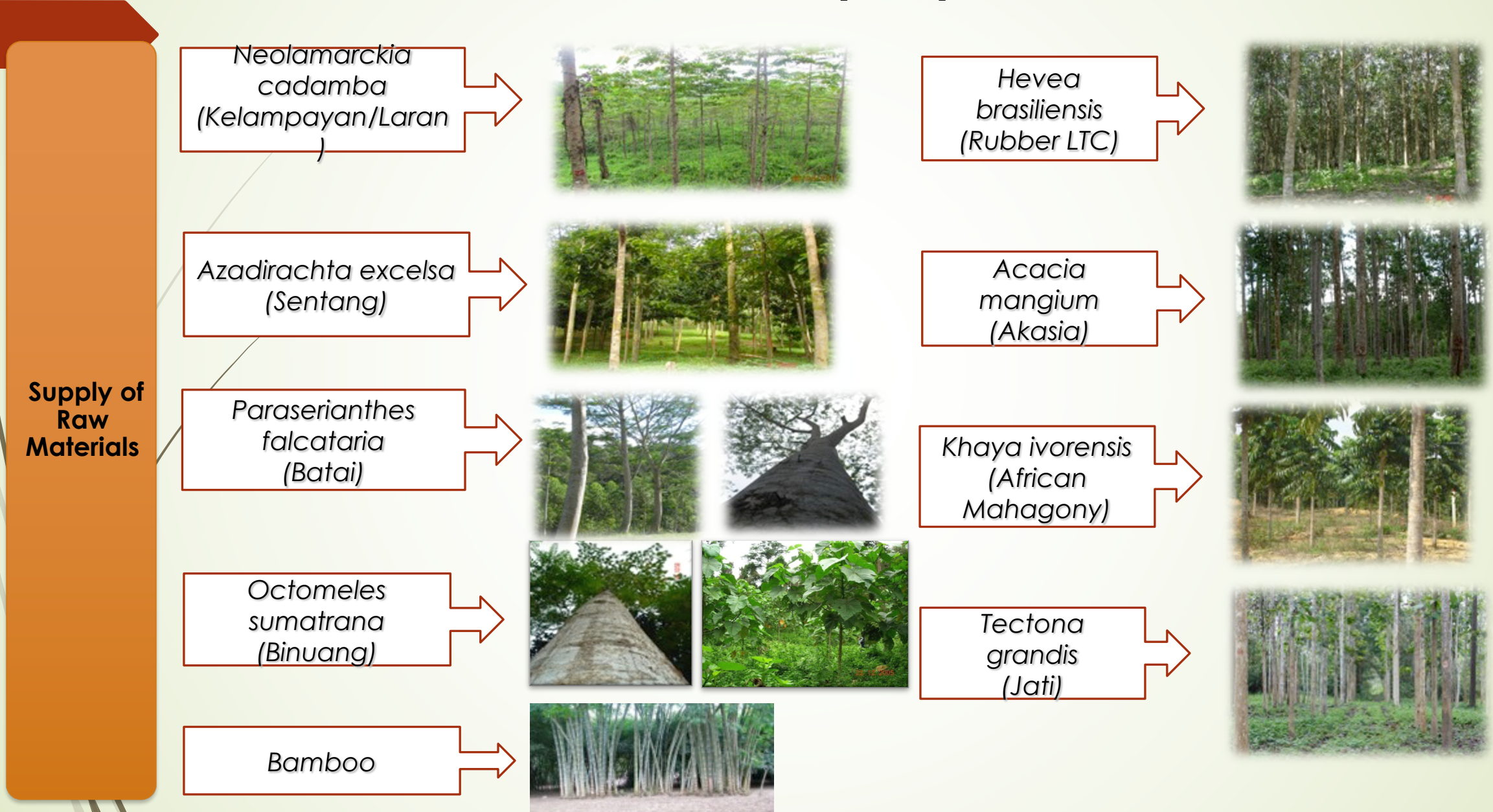
Agreement : 77 with 65 companies

Approved Plantation : 124,766 Ha

Rubber Plantation : 86,380 Ha (69%)

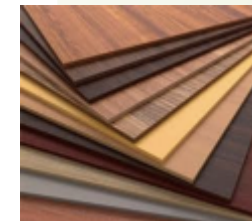
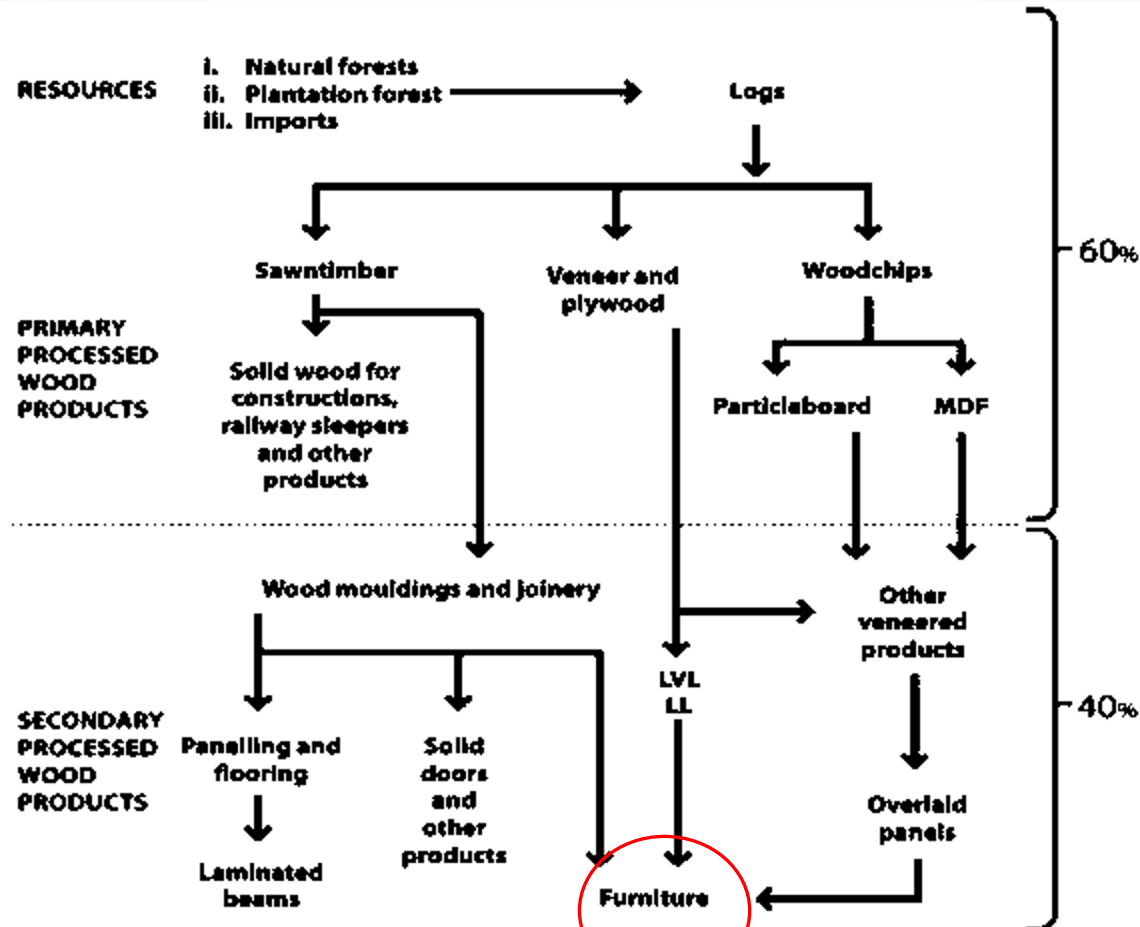
Timber Species : 35,841 Ha (31%) - 7 Species

MTIB/MPIC FOREST PLANTATION PROGRAMME (PPLH) : 9 APPROVED SPECIES



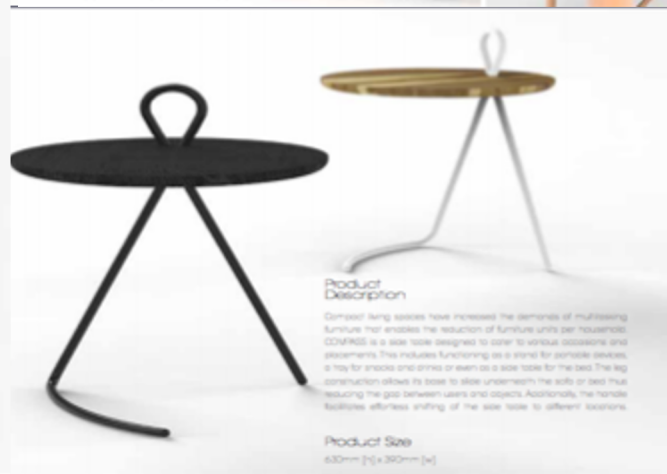
FROM LOGS TO HIGH VALUE ADDED TIMBER PRODUCTS

TIMBER INDUSTRY



MILAN DESIGN WEEK, i-SALONI, ITALY

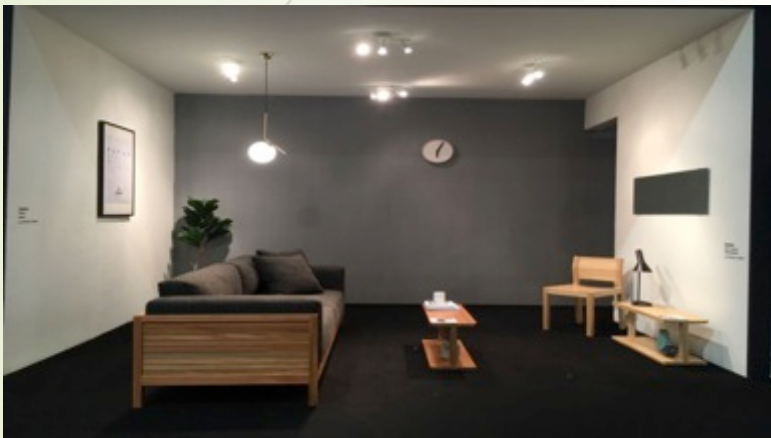
2015-2016 COLLECTION



PROTOTYPE COLLECTION of *i-SALONI* MILAN 2017



PAPAN SERIES 2018's COLLECTION UNDER TANGGAM LABEL



Brocks Common, UBC, Vancouver, Canada



CLT Supplier : KLH

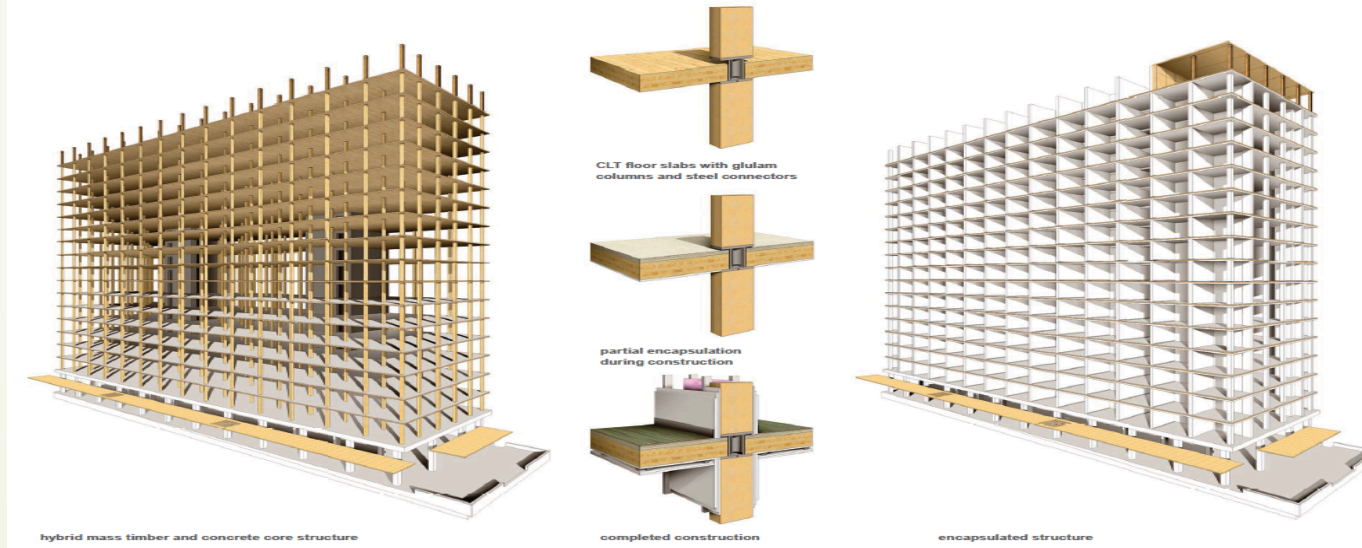
Time Completed : 9 Week

Site area: 2,315 m²

Quantity: 404 units

Storeys: 18

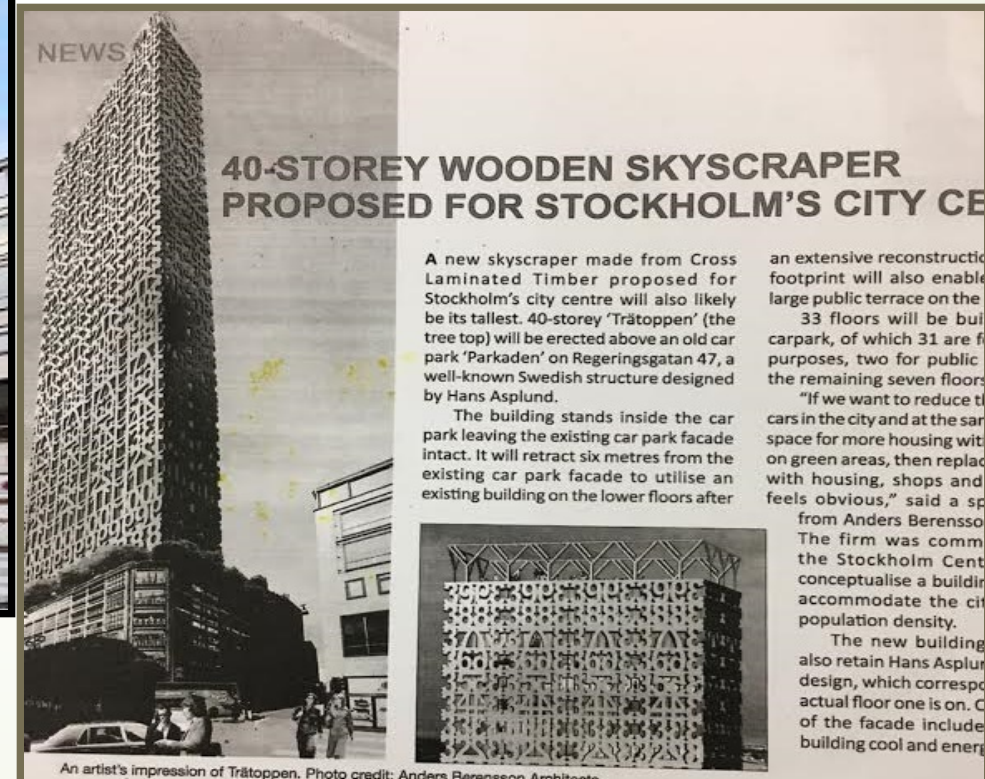
Timber Used: 2,233 m³



FUTURE TIMBER AS HIGH RISE AND GREEN BUILDINGS-SWEDEN



Anders Berensson proposes that the 40-storey structure (133 metre) could be made from cross-laminated timber (CLT) with decorative facades, a type of engineered wood made from sections of laminated wood. The material is considerably stronger and more stable than regular timber, allowing architects to propose bigger and taller wooden structures than ever before.

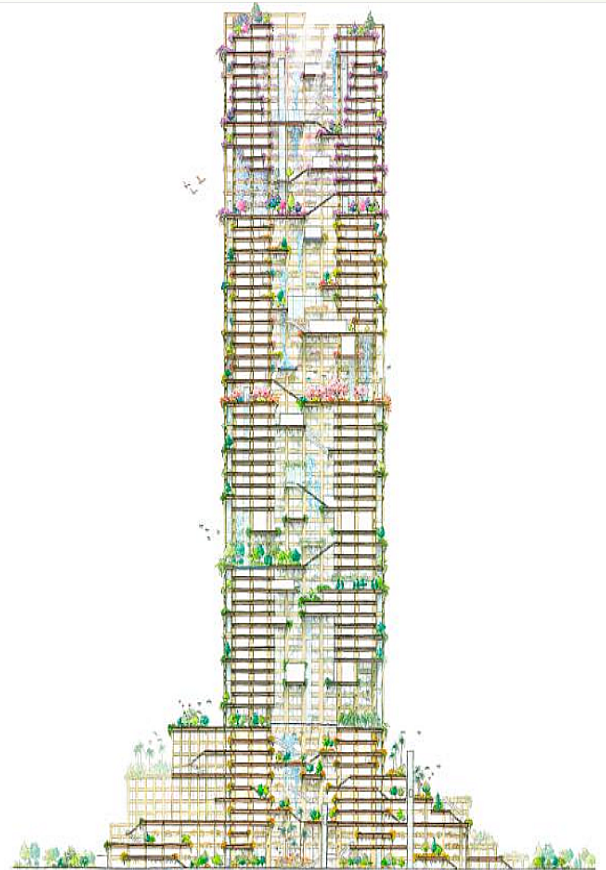


FUTURE PLANS FOR MULTISTOREY TIMBER BUILDING-OAKWOOD TOWER, LONDON



- PLP Architecture JV with University of Cambridge plans 80-storey 'timber tower' (300 METRES TALL) 93,000-square-metre floor plan, to showcase potential for lightweight and more environmental friendly construction
- Four times lighter than concrete structures

FUTURE TALLEST BUILDING FROM TIMBER



Sumitomo Forestry

Country: Japan

Height: 350 meter

Wood Consumption cu/ft: 6.5 million

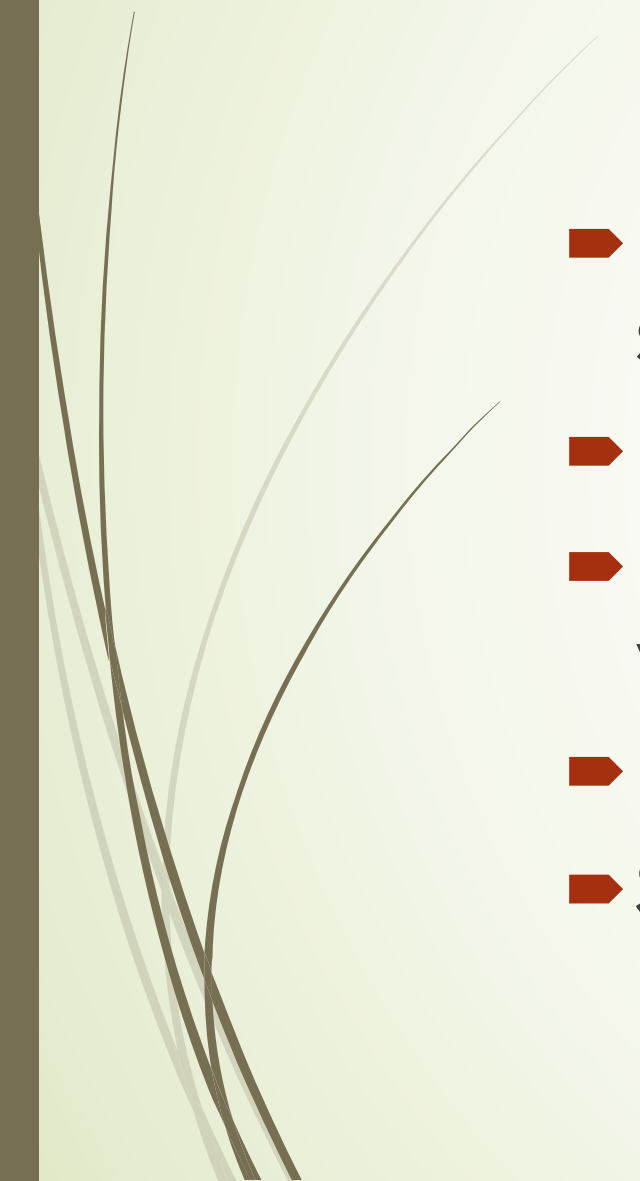
Year : 2041

Architect : Nikken Sekkei

System/Concept: Hybrid Wood – Steel (9/1)



CHALLENGES

- Important industrial raw material produced by smallholders - 90% world's production
 - Productivity, price and quality issues
 - Reducing immaturity period (tappable in 4 – 5 years)
 - Need for skill in harvesting
 - Suitable clones for planting in marginal areas
- 



OPPORTUNITIES

- Environmental friendly – reduces carbon emission.
 - More than 50,000 products from NR.
 - Production of high value chemicals.
 - Effective in poverty alleviation – suitable for rural economy.
 - Furniture industry.
 - Scope for growth in Africa.
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THANK YOU

