Community engagement and smallholders as pillars for Southeast Asian forest investment and regional wood supplies

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We know:

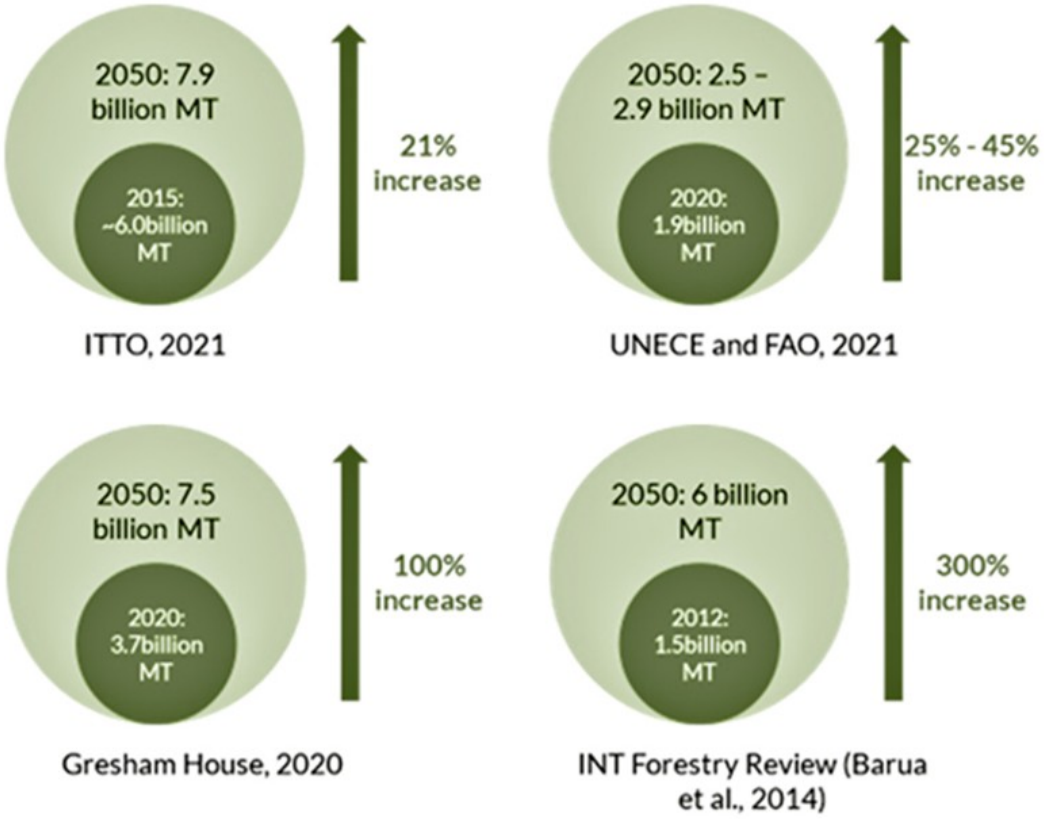
Populations, prosperity and aspirations grow:

More people; more urban people, more prosperous people; = > wood demand

Wood consumption increases in the Asia Pacific

The World Needs More Wood:
Q: How much? A: Lots!

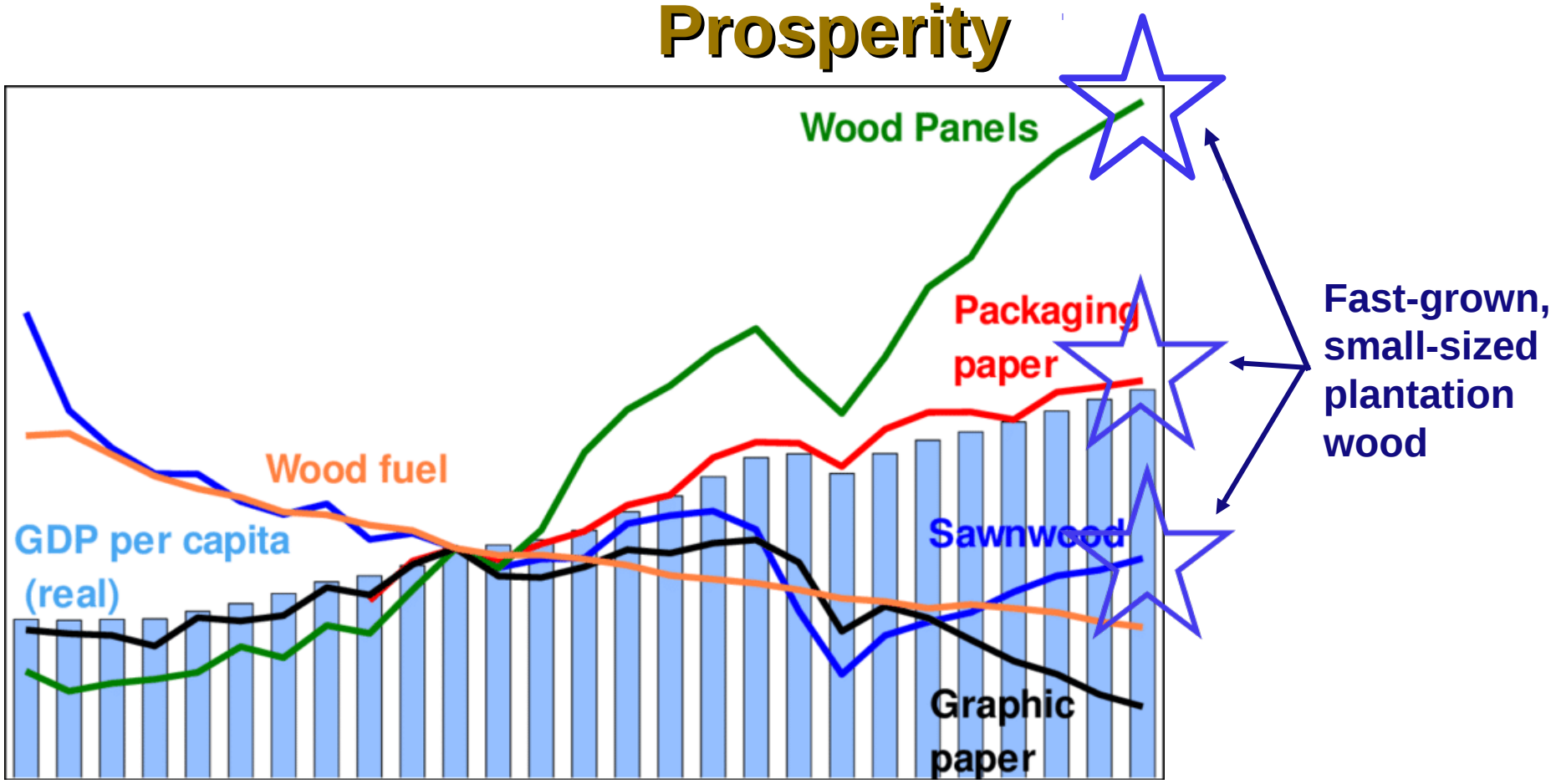
Fig 18. 2050 projected industrial roundwood demand estimates (Dalberg, 2022)



+21% – +300% by 2050

Source: Dalberg (2022).The growing role of forest products in climate change mitigation & the need for nationally determined forestry approaches to achieve net zero emissions. www.dalberg.com

What wood is needed?
Reflect: Wood products consumption and Prosperity



Source: Hetemäki & Hurmekoski (2020)

Demand is strong but supply is challenged

More wood fibre needed.

For woodchip alone:

Asia's deficit in woodchip production is expected to increase from 20 million m^3 to 59 million m^3 by 2030 driven by an increase in China's woodchip deficit to 33 million m^3 **(1)**

Expanded supply from native forests unlikely.

Q. Where will the wood come from?

(1). Lock, P., Legg, P., Whittle, L., & Black, S. (2021).

Response: plantations expand

Globally plantations represent 7% global forests but contribute 47% of the wood harvest[(2)]

FAO (2022) concludes that >33 M ha of additional highly productive plantations are needed to supply the basic IRW demand expected in 2050[(3)]

BUT - Expansion of conventional extensive plantations is challenged in crowded Asian landscapes.

How does SE Asia respond?

(2). Payn, T., Carnus, J.-M., Freer-Smith, P., Kimberley, M., Kollert, W., Liu, S.,Wingfield, M. J. (2015).
(3). FAO. 2022. Global forest sector outlook 2050

We know:

Wood can be produced efficiently

- Soils, temperature and rainfall are suitable
- Underutilised lands are available
- Commercial species grow well and technical skills good
- Market demand is strong
- Infrastructure improving
- Policy environment, legal/regulatory framework improving

BUT: Access to land for plantations:

- Where?
- Competition from agriculture
- Other land use

Access to land is the major challenge to plantation expansion in the region: and communities and smallholders have land!

Issues:

- Traditional/ customary ownership and use (sometimes not recognised by national laws)
- Trust (Communities/Government/Companies)
- Equity in decision-making about land-use
- Sharing benefits

•Effective industry/smallholder engagement offers Social/Political Licence – investor requirement

•A major risk consideration for industry investment

Community and Smallholder Engagement now a normal part of business

Smallholders responding to market demand and growing commercial wood

Motivation:

$

Improved livelihoods

- Other benefits: carbon, environmental – important but secondary
- Smallholders are not victims and do not need charity
- Benefits accrue across the supply chain: Industry is not the enemy

Byron's Keys for smallholder success: a door with multiple locks

1. Clear and unequivocal ownership of the land and the trees
2. The certainty of attractive and reliable markets for the forest products
3. A robust technical package of practices which help minimise risk
4. Sympathetic legal and regulatory frameworks and environments.

A Division of responsibilities:

- The Government can help with #1 and #4
- The private sector can help with #2 and #3

Ref: Byron, R. N. (2001). Keys to smallholder forestry. Forests, Trees and Livelihoods.

Smallholders contribute significantly to commercial wood flows in the region:

The Chinese, Indian, SE Asian smallholder resource of eucalypts and acacias is estimated at 10 M ha, providing annual harvests of industrial wood 86 M m^3 yr^{-1} valued at >US$2.5 billion[(3)]

Compare with annual est. wood harvests in 2022 from:

- **British Columbia (population 5 million): est. 77 million m^3**
- **Finland (population 5.5 million): est. 76 million m^3**
- **Sweden (population 10.5 million): est. 90 million m^3**
- **Germany (population 83 million): est. 79 million m^3.**
- **Australia (population 26 million): est. 33 million m^3**

Smallholders matter: ***550 million Asian smallholders are producing more wood that most of the world's forestry giants.***

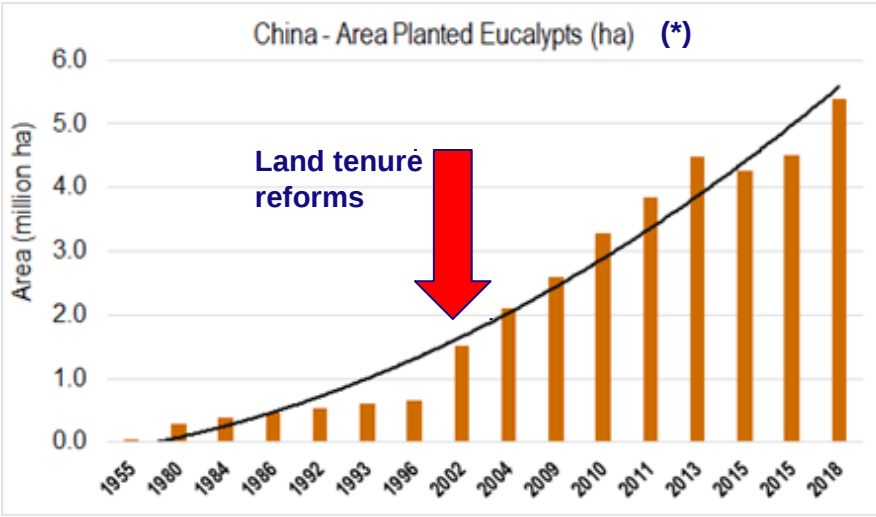
A few examples……..

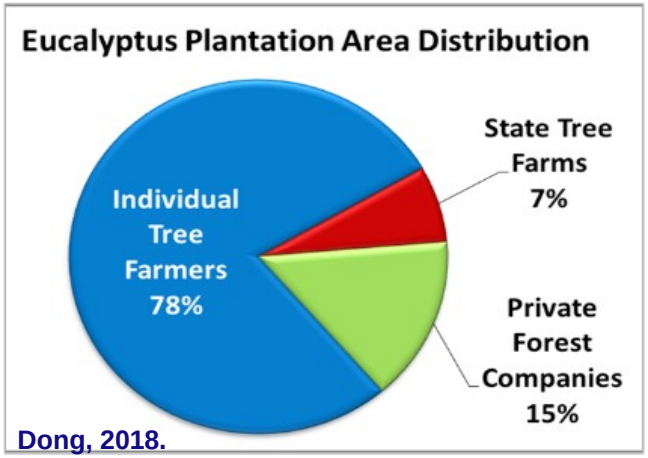
[(3)] Arnold, R., Midgley, S., Stevens, P., Phimmavong, S., Kien, N. D., & Chen, S. (2022).

Smallholders, Eucalypts and Plantations in China

5.4M ha eucalypt plantations**

- Support large, modern industries
- 78% (4.2 Mha) in smallholdings (<10ha + “4-round” plantings)***





Sources:

* Arnold *et al* (2022) ** Xie *et al* (2017).
*** Dong (2018), Farooq *et al* (2021)

After 20 years of reform

Yi (2023): Extensive devolution of communal forests to households in 2008 via the central government's policy *Collective Forest Tenure Reform in the Southern Collective Forest Areas in China*, 62 million hectares devolved to individual households, involving 600 million people.

Yi found:

- Households invested more time, money and resources into forest land if they had secure tenure
- Forest cover was greater in regions where land tenure had been devolved to households

The findings found that clearly-defined and well-protected household property rights offer an effective alternative to community management in small-scale forestry, indicating that community ownership and control was inefficient.

Yuanyuan Yi (2023). Devolution of tenure rights in forestland in China: Impact on investment and forest growth. Forest Policy and Economics 154. https://doi.org/10.1016/j.forpol.2023.103025

In India:

Wood industries based on Smallholders

Eucalypt agroforestry - Punjab

6.5Mha of eucalypt plantings.
Trees in Agroforestry Systems in India = 11Mha. Est. 20 Mm^3 of eucalypt wood grown in agroforestry systems

Statutory ceilings to landholdings: degraded Government forest land unavailable to industry. Plantation expansion limited

80% of the wood for pulp and paper, veneer and panel products industries in India is farm-grown timber

Eucalypt transport JK Paper, Rayagada, Odisha

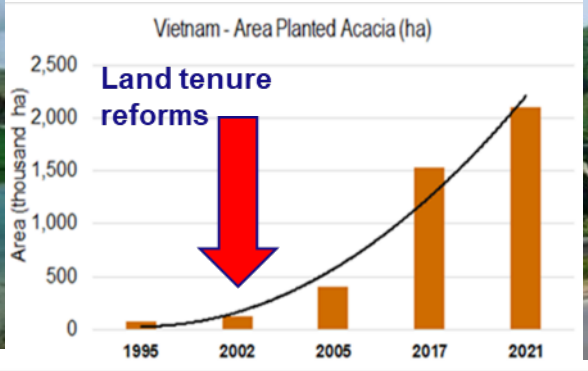
Smallholders, Acacias and Plantations in Vietnam

- 2.2 M ha of Acacias supporting est. 50% US$14 bill export industry for wood products (2021):
- 15 M bdmt woodchips (2022) (est >US$2.7 billion)

- **Est 1.4 million smallholders manage est. 1.8 Mha Acacia plantations : 32 Mm^3 annual harvest (est)**
- **Wood chips, solid wood, furniture, MDF, pellets**
- **4,200 wood processing companies, 90% small-scale**
- **Smallholder growers contribute >US$800 mill annually to rural earnings**

Highway #1, Vinh 1990

Landscapes transformed



Ho Chi Minh Highway, Nghe Anh, 2010

Vietnam:

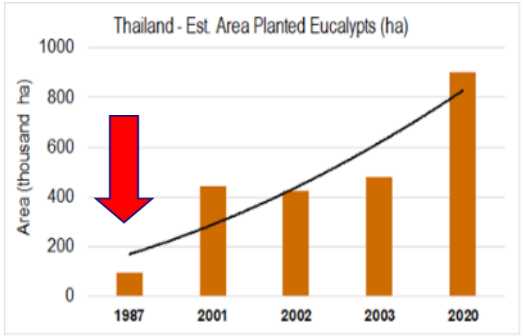
Smallholder plantations have transformed the landscape as well as the rural economy.

- The technical package of species and silviculture is robust
- The policy, institutional and market environment for farm-based plantation forestry is supportive.
- Land tenure reform: issue of Land Use Right Certificate “The Red Book “

The Red Book: issued by the Ministry of Natural Resources and Environment for rural land, agricultural land, forestry land and proves land use rights. It is a certificate of land use rights and a tool to protect the rights and interests of land owners.

In Thailand
Smallholders and eucalypts support industry

- 800,000 ha (est)
- 95% is privately owned
- Est annual harvest 13.6 Mm^3
- Private Tree Farm Incentive Plantation Promotion 1994 – 2002
- Double A Paper's '*Khan-na*' initiative reaches 1.5 million contract farmers



- Pulp
- Wood chips: Domestic and export
- Saw Logs (furniture, pallets)
- Veneer logs (plywood and engineered flooring
- MDF, HDF, hardboard and particleboard.
- Small construction poles
- Biomass energy

Challenges ahead.

Industry is central to success: without industry – nothing happens

For the grower:

- No one benefits if productivity collapses: sustainable soil/stand management at a farm level to increase productivity and profitability
- Access to finance – trees as collateral
- Market reliability
- Government support and bureaucratic burden: Compliance with laws, regulations, changing market requirements (certification, EUDR and legality), taxes.
- Access to reliable technical and market information. best germplasm, seedlings and silviculture

For Industry.

- Reliability and adequacy of supply,
- Uniform (predictable) quality
- Maintaining attractive prices

For both:

- **Management of Risk**

Commercial Plantings represent a Win:Win:Win for Government, Industries and Smallholders

For Government:

- Alleviation of poverty
- Economic growth and creation of new industries, employment and skills
- Effective and sustainable utilisation of degraded lands
- Address climate change and issues around carbon

For Smallholders

- Profitable and sustainable land use options, asset creation
- Increased household incomes, livelihoods, employment, development of skills
- New opportunities; flexible harvest times fit in with other land use

For Industry

- Expanded wood supply
- Strengthened community engagement
- Land costs minimised

Society, Industry & Smallholders profit together

ITTO knows this and has been a long-term player

- **November 1990**. ITTO Council requests Guidelines for "best practice" for planted tropical forests.
- **ITTO (1993).** ITTO guidelines for the establishment and sustainable management of planted tropical forests. ITTO Policy Development 4. These provided a succinct summary of the major issues and principles needed in the planning, establishment and management of planted forests in tropical environments.
- **2004.** ITTO Council commissioned a study to encourage private sector investment in industrial forest plantation in the tropics.
- **ITTO (2009).** Encouraging Industrial Forest Plantations in the Tropics: Report of a Global Study. ITTO Technical Series no 33. Prepared by STCP Engenharia de Projetos Ltda. Examined the key factors that determine the success or failure of commercial plantations in selected ITTO producer and consumer countries.
- **ITTO (2014).** The great plantation expansion. ITTO Tropical Forest Update 22/3 (Sepul K. Barua and Petri Lehtonen). '*Expanding the area of forest plantations to meet escalating*
- *demand for wood requires more support for small and medium-sized forest-growers, especially in the tropics*'
- **ITTO (2021).** Tropical timber 2050: an analysis of the future supply of and demand for tropical timber and its contributions to a sustainable economy. ITTO Technical Series No. 49. International Tropical Timber Organization (ITTO), Yokohama, Japan. (Held, C., Meier-Landsberg, E. & Alonso, V. 2021).
- **ITTO (2021).** Fiscal and non-fiscal incentives for sustainable forest management: ITTO Technical Series No. 48 + Annexes

What smallholders need from ITTO (my view)

- Supportive policies and advocacy
- Market information and knowledge as the foundation for decision-making
- Simplicity
- Positive links with industry
- Government decision-makers need skills in market analysis and access to reliable information

A Work Plan for ITTO

Follow the recommendations

Table 3: Future fields of activity in the transition and modernization of the tropical forest sector

Focus area	Field of future activities
1 SFM: managing and conserving tropical forests	Develop innovative business models and multiple revenue streams for natural forest management, including "concessions 2.0"
	Develop concepts to provide the raw materials of the future: high-quality raw materials for modern industries from productive plantations that are resilient to climate change
2 Economics, statistics and markets: improving the transparency of—and expanding international markets for—tropical timber	Support international initiatives that promote timber trade, legality and transparency through data analytics and impact monitoring
	Analyse current and future market requirements and understand the transitions required for tropical timber supply and value chains
3 Sustainable forest industries: developing efficient and value-adding tropical forest-based industries	Promote innovation and digitalization in tropical timber sectors, from forest information systems and timber production to wood product processing and consumer requirements
	Develop incentive and capitalization schemes for small and medium-sized enterprises
4 Climate-change mitigation and adaptation: addressing climate change	Promote the substitution of non-renewable materials with sustainable timber to mitigate greenhouse-gas emissions and other negative externalities associated with the use of non-renewable materials
	Cooperate with initiatives that address deforestation and degradation and promote reforestation for commercial purposes
5 Capacity building: raising the capacity of forest stakeholders to manage and benefit from their resources	Promote diversity in tropical timber production to enable broad participation, ownership and benefit-sharing in SFM, including in small to large enterprises and between, private and public actors, genders and generations
	Facilitate knowledge transfer and provide training and education to meet future silvicultural and industry labour requirements

Source: Held, et al. 2021. ITTO Technical Series No. 49.

Thank you

References

Arnold, R. J., Midgley, S. J., Stevens, P. R., Phimmavong, S., Kien, N. D., Chen, S. X. (2022). Profitable partnerships: smallholders, industry, eucalypts and acacias in Asia, Australian Forestry. https://doi.org/10.1080/00049158.2022.205126

Arnold, R. J., Xie, X. J., Midgley, S. J., Luo, J. Z. and Chen, X. F. (2013). Emergence and rise of eucalypt veneer production in China. International Forestry Review Vol. 15 (1). 15p

Arnold, R. J., Xie, Y. J., Luo, J. Z., Wang, H. R. and Midgley, S. J. (2020). A tale of two genera: exotic Eucalyptus and Acacia species in China. 1. Domestication and Research. International Forestry Review Vol.22(1), 2020.

Arnold, R. J., Xie, Y. J., Luo, J. Z., Wang, H. R. and Midgley, S. J. (2020). A tale of two genera: exotic Eucalyptus and Acacia species in China. 2. Plantation Resource Development. International Forestry Review 22 (2) 153 – 168.

Barua and Lehtonen (2014). The great plantation expansion. ITTO Tropical Forest Update 22/3 ITTO Yokohama.

Brookings Institution (2017). The unprecedented expansion of the global middle class. Available at: https://www.brookings.edu/research/the-unprecedented-expansion-of-the-global-middle-class-2/

Dong, H. (2018). The Impact of Forest Policy on Wood Production in China. Guangxi Forest Growers Association. Presentation to Hawkins Wright Conference, March 15, 2018, Shanghai.

FAO. 2022. Global forest sector outlook 2050: Assessing future demand and sources of timber for a sustainable economy – Background paper for The State of the World's Forests 2022. FAO Forestry Working Paper, No. 31. Rome. https://doi.org/10.4060/cc2265en

Farooq, T. H., Awais Shakoor, Xiaohong Wu, Yong Li , Muhammad Haroon U Rashid, Xiang Zhang, Matoor Mohsin Gilani, Uttam Kumar, Xiaoyong Chen, Wende Yang (2021). Perspectives of plantation forests in the sustainable forest development of China. iForest - Biogeosciences and Forestry, Volume 14, Issue 2, Pages 166-174 (2021) doi: https://doi.org/10.3832/ifor3551-014

Harwood C.E, Nambiar E.K.S. (2014). Sustainable plantation forestry in South-East Asia. Canberra: Australian Centre for International Agricultural Research, Canberra. Technical Report No 084. Available from: http://aciar.gov.au/biblio/tr084

Hawkins Wright (2021). The outlook for pulpwood supply & demand in the Asian Pacific Rim. Commercial Report. April 2021. pp.60.

Held, C., Meier-Landsberg, E. & Alonso, V. (2021). Tropical timber 2050: an analysis of the future supply of and demand for tropical timber and its contributions to a sustainable economy. ITTO Technical Series No. 49. International Tropical Timber Organization (ITTO), Yokohama, Japan.

Hetemäki, L., Palahí, M. and Nasi, R. 2020. Seeing the wood in the forests. Knowledge to Action 01, European Forest Institute. https://doi.org/10.36333/k2a01 . Available at: https://www.efi.int/articles/seeing-wood-forests

Hetemäki, Lauri & Hurmekoski, Elias. (2020). Forest bioeconomy development: markets and industry structures. In: The Wicked Problem of Forest Policy (edited by William Nikolakis and John Innes) Cambridge University Press (forthcoming). Draft available at: https://www.researchgate.net/publication/343320417_Forest_Bioeconomy_Development_Markets_and_Industry_Structures

References

Joonas Järvinen et al (2019). Global Demand for Paper Products: 2006–2050. Chapter 12, in: Juha-Antti Lamberg et al (eds)(2019). The Evolution of Global Paper Industry 1800–2050 A Comparative Analysis. 382p. Springer.

Karsenty, A. 2021. Fiscal and non-fiscal incentives for sustainable forest management: synthesis of the lessons derived from case studies in Brazil, Cambodia, the Congo, Côte d'Ivoire, Myanmar, Peru, Thailand and Viet Nam. Plus Annexes. ITTO Technical Series No. 48. International Tropical Timber Organization (ITTO), Yokohama, Japan. Available at: https://www.itto.int/direct/topics/topics_pdf_download/topics_id=6682&no=1&disp=inline

Lock, P., Legg, P., Whittle, L., & Black, S. (2021). Global Outlook for Wood Markets to 2030: Projections of future production, consumption and trade balance, ABARES report to client prepared for the Forest and Wood Products Australia. (CC BY 4.0.) doi:https://doi.org/10.25814/76wa-v824

Mehta. A. S. (2016). Indian Paper Industry Outlook & Way Forward. RISI Conference, Shanghai. June, 2016

Midgley, S. J., Stevens, P. R. and Arnold R. J. (2017). Hidden Assets: Asia's Smallholder Wood Resources, and their Contribution to Supply Chains of Commercial Wood. Australian Forestry 80 (1).

Payn, T., Carnus, J.-M., Freer-Smith, P., Kimberley, M., Kollert, W., Liu, S., . . . Wingfield, M. J. (2015). Changes in planted forests and future global implications. Forest Ecology and Management, 352, 57-67. doi: https://doi.org/10.1016/j.foreco.2015.06.021

Liqing Peng, Timothy D. Searchinger Jessica Zionts & Richard Waite (2023). The carbon costs of global wood harvests. Nature. https://doi.org/10.1038/s41586-023-06187-1

Nguyen Vinh Quang, To Xuan Phuc, Nguyen Ton Quyen, Cao Thi Cam (2018). Linking Smallholder Plantations to Global Markets: Lessons from the IKEA Model in Vietnam. Forest Trends Report Series: Forest Policy, Trade, and Finance. Available at: http://www.forest-trends.org/

Taimoor Hassan Farooq (1-2), Awais Shakoor (3), Xiaohong Wu (1-2), Yong Li (1-2), Muhammad Haroon U Rashid (4), Xiang Zhang (1-2), Matoor Mohsin Gilani (4), Uttam Kumar (5), Xiaoyong Chen (2-6), Wende Yan (1-2) (2021). Perspectives of plantation forests in the sustainable forest development of China. iForest - Biogeosciences and Forestry, Volume 14, Issue 2, Pages 166-174 (2021) doi: https://doi.org/10.3832/ifor3551-014

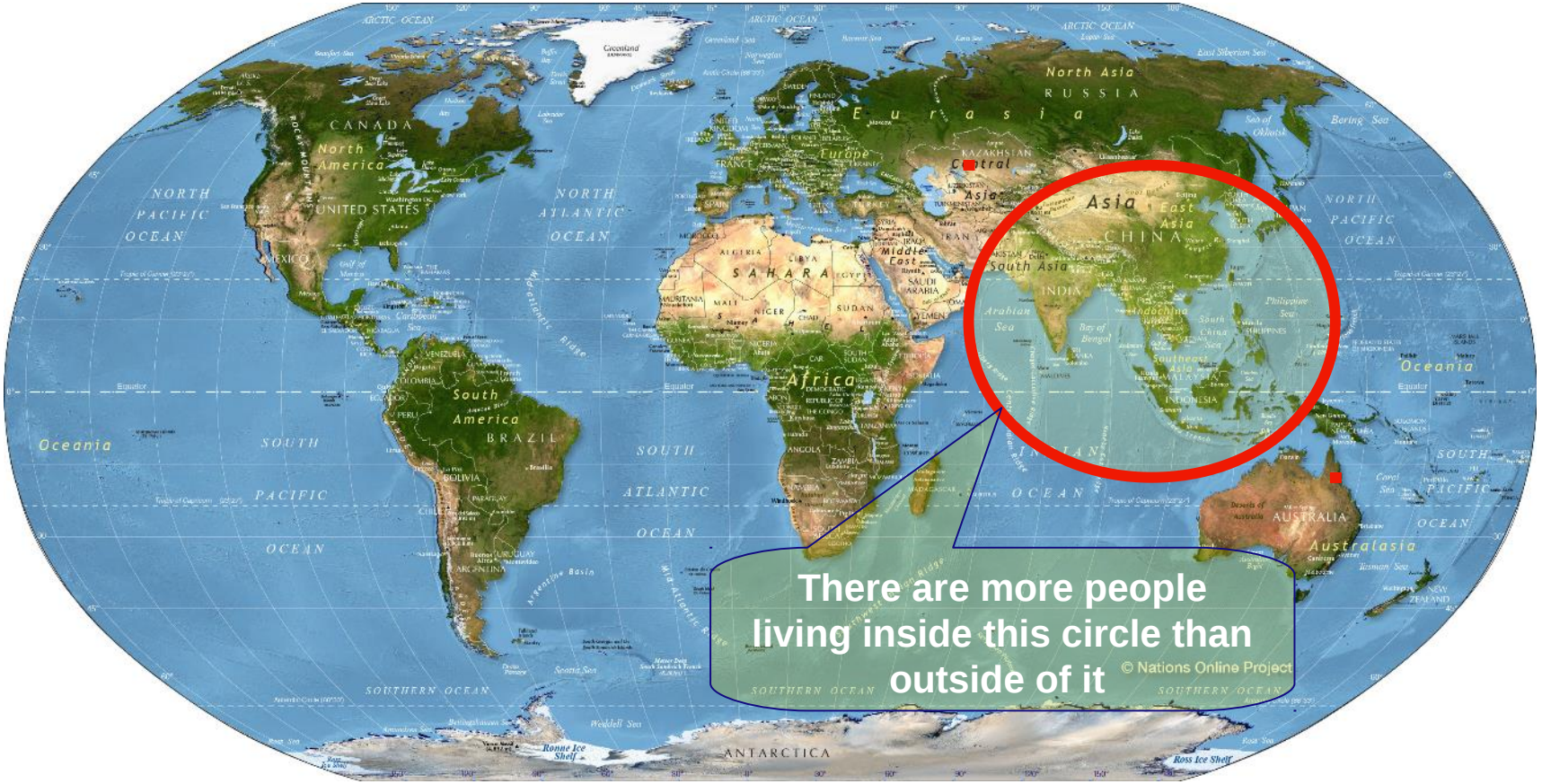
United Nations, Dept. Economic and Social Affairs, Population Division (2019) World Urbanization Prospects: The 2018 Revision (ST/ESA/SER.A/420), New York: United Nations.

Xie, Y., Arnold, R. J., Wu, Z., Chen, S., Du, A. and Luo, J. (2017). Advances in eucalypt research in China. Frontiers in Agricultural Science and Engineering 4: 380–390.

Yuanyuan Yi (2023). Devolution of tenure rights in forestland in China: Impact on investment and forest growth. Forest Policy and Economics 154. https://doi.org/10.1016/j.forpol.2023.103025

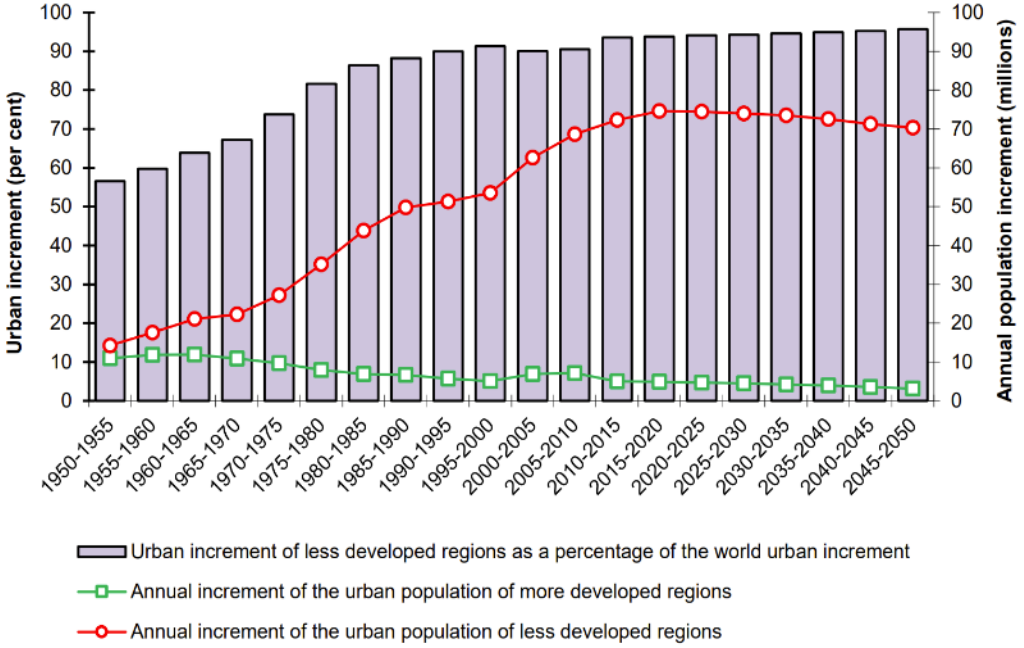
Supplementary Slides

Global population



55% of the world's population, 22% of the global land area and 15% of the forest area.

Urbanisation



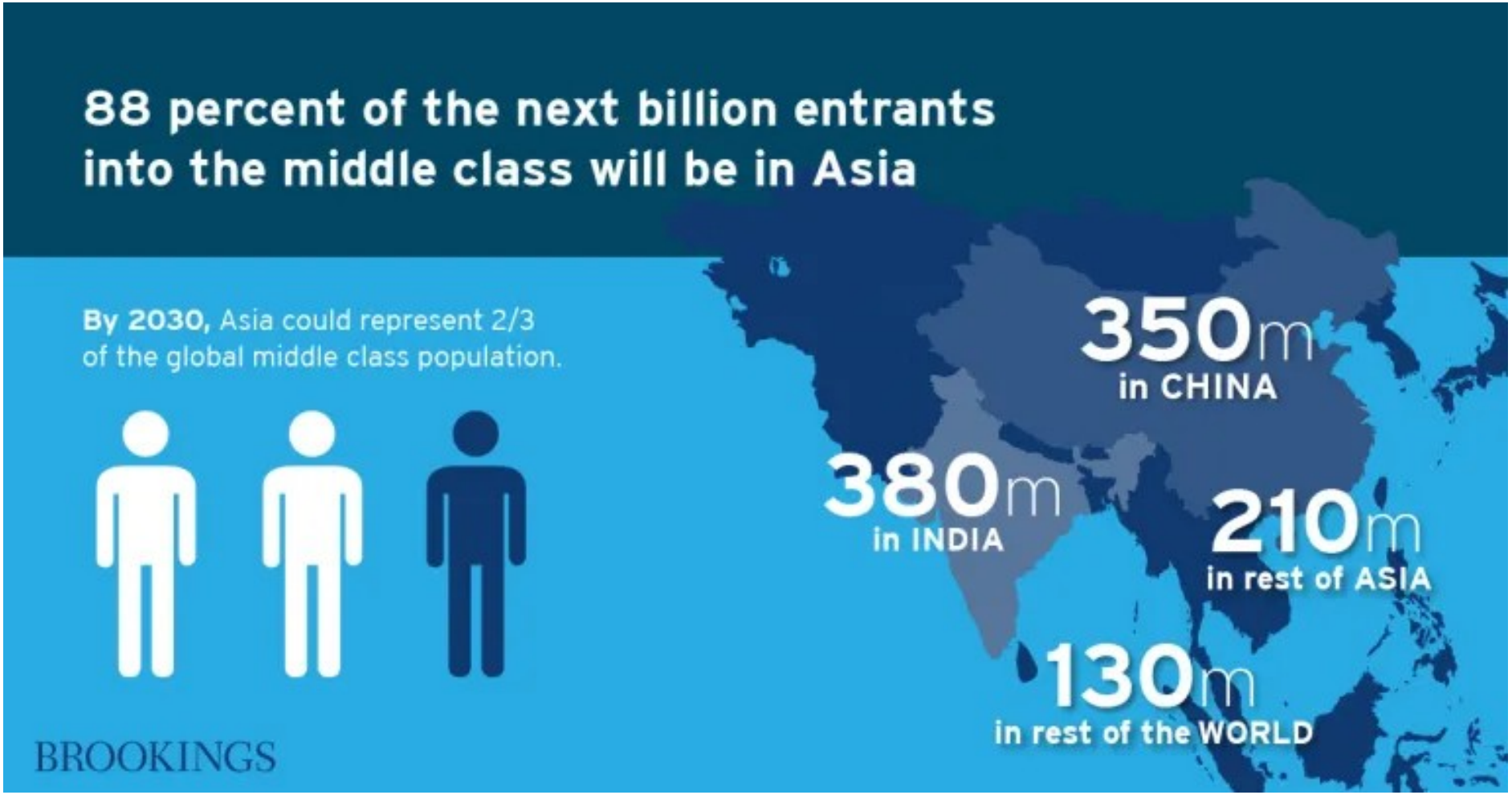
United Nations, 2019

Current >50% world's population in cities. >70% in 2050

City people use forests and wood differently to rural people: Fuelwood, panels and tissue

India needs to build 700 – 900 M m² residential + commercial space annually (= Chicago)

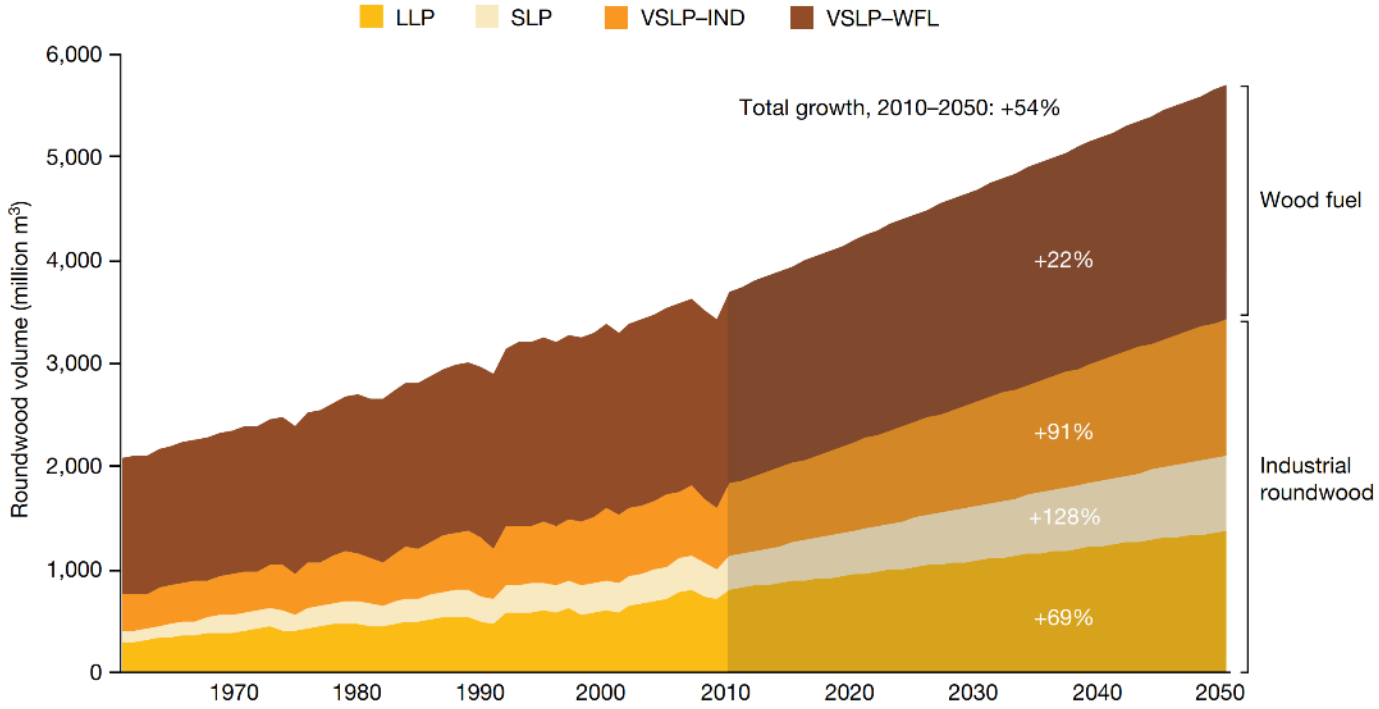
Growing prosperity



Source: Brookings Institution (2017).

Global demand for wood grows

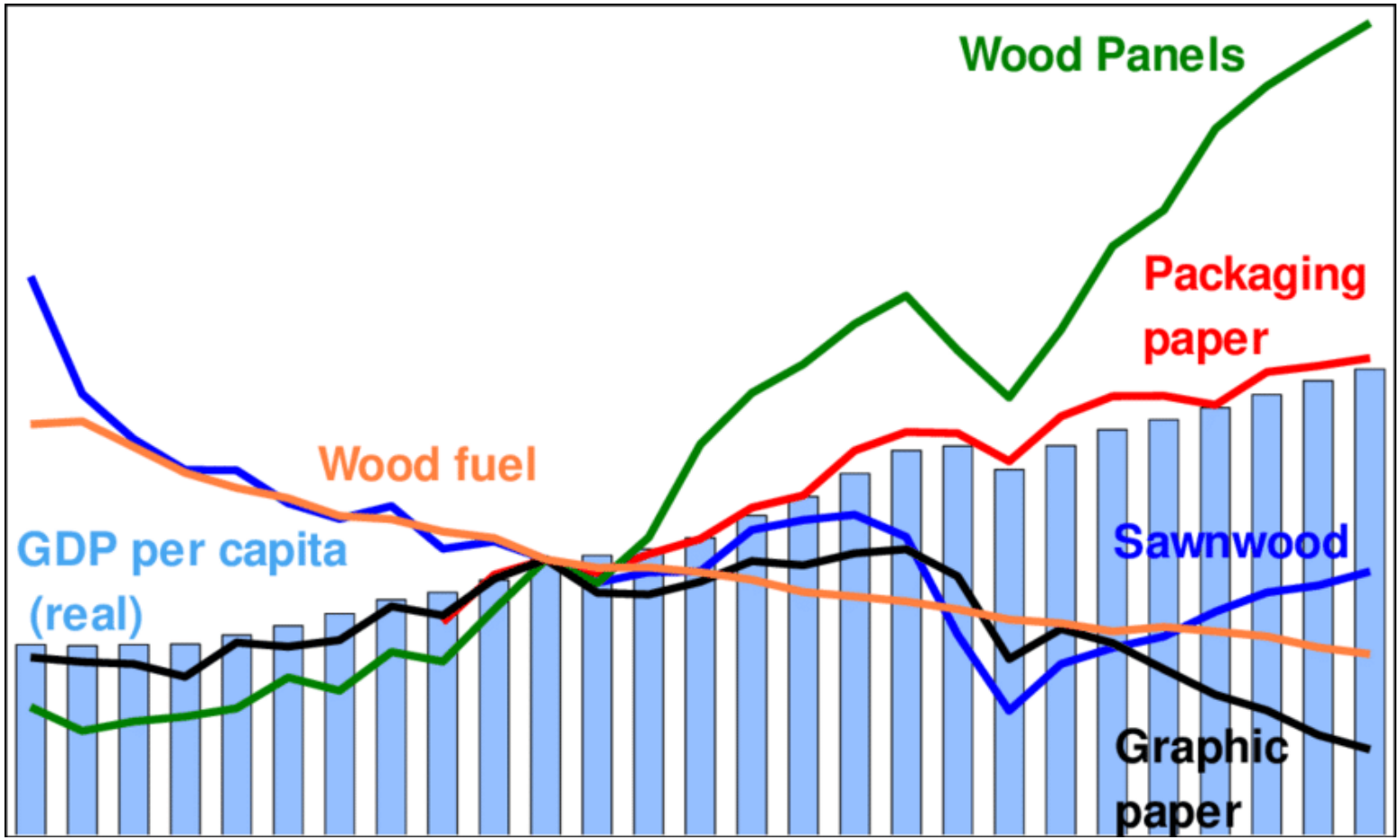
Historical and projected increases in global wood product production (million m³) between 1961 and 2050



LLP = Long-lived Products
SLP = Short-lived Products
VSLP-IND = Very Short-lived products (industrial energy)
VSLP-WFL = Very short-lived Products (wood fuel)

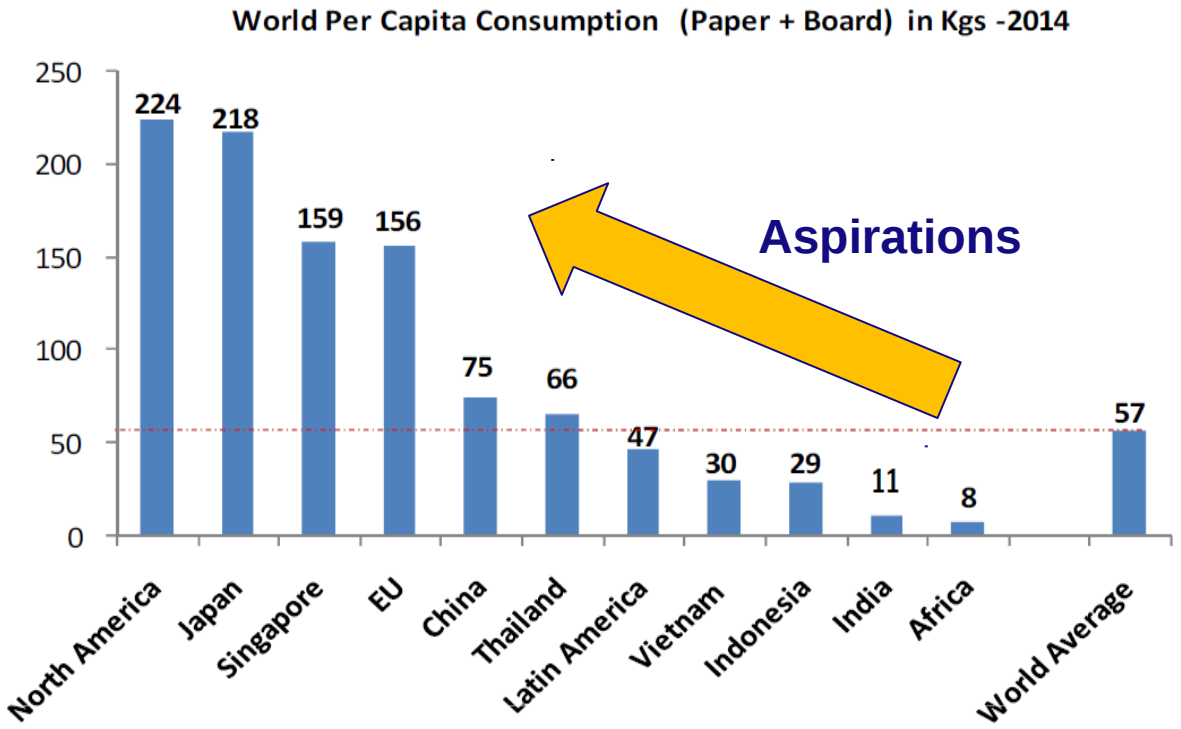
Source: Liqing Peng, Timothy D. Searchinger Jessica Zionts & Richard Waite (2023). The carbon costs of global wood harvests. Nature. https://doi.org/10.1038/s41586-023-06187-1

Wood products consumption and Prosperity (GDP)



Source: Hetemäki & Hurmekoski (2020)

Aspirations: Wealth and paper and board products



Source: Mehta. A. S. (2016).

Certification: Who Pays?

The weakest link: The reality of Supply Chain Dynamics

"Voluntary"
"Responsible"?
"Discerning"?
"Credible"?

Resource → Harvest → Transport → Process → Retail → Consumer

Benefit?

An alternative view of Certifying Bodies:
Consider Supply & Value Chains for smallholder wood