



Lessons from UK on Developing Sustainable Agroforestry Systems



India has made significant progress in its forestry and agroforestry sectors, ranking 3rd globally in the annual increase in forest area and 9th in total forest area.¹ This reflects growing government attention to policies supporting forest restoration, including agroforestry where woody perennials (trees, shrubs, bamboo, etc.) are purposefully used on the same land management units as crops and/or animals in some sort of spatial arrangement or temporal sequence. Agroforestry systems are multipurpose systems that offer a wide range of economic, sociocultural and environmental benefits. India has 28 million hectares of agroforestry plantations, covering about 8 per cent of India's geographical land area. Agroforestry and all other trees outside forests meet about 49 per cent of the demand for fuelwood, 60 per cent of the raw material for paper and pulp, and 9-11 per cent of India's green fodder requirement of livestock. Furthermore, Agroforestry and trees outside forests provide 65 per cent of small timber and 70 - 80 per cent of wood for the furniture and construction industries. With a rising population and a promising growth rate, its domestic demand from wood-based industries, like construction, pulp and paper, furniture, and plywood, are together forecasted to grow by 70% from 57 million m³ to 97.8 million m³ between 2020 and 2030.²

However, this growth comes under increasing pressure from rising urbanization, infrastructure development, and is likely to be compounded by an increase in legal sourcing and traceability, and demand for transparent supply chains to meet global sustainability standards. Meeting both growing demand and evolving sustainability requirements represents not only a challenge but an opportunity for India.

In response to these challenges and to harness these opportunities, the Ministry of Environment, Forest, and Climate Change, Government of India, (MoEFCC) launched the **National Transit Pass System (NTPS) - 'One Nation, One Pass'** to provide seamless interstate, as well as intrastate transport of timber, bamboo, and other forest products from agro-forestry through its online portal (<https://https.nic.in>) and mobile app. It enables self-generated No Objection Certificates, integrates smallholders into supply chains, and promotes transparency. While it has smoothened the timber movement and digital integration, some essential upgrades are required for optimal usage like end-to-end traceability of wood-based products, integration with certification systems, export facilitation, data analytics, and enhanced cybersecurity measures.³

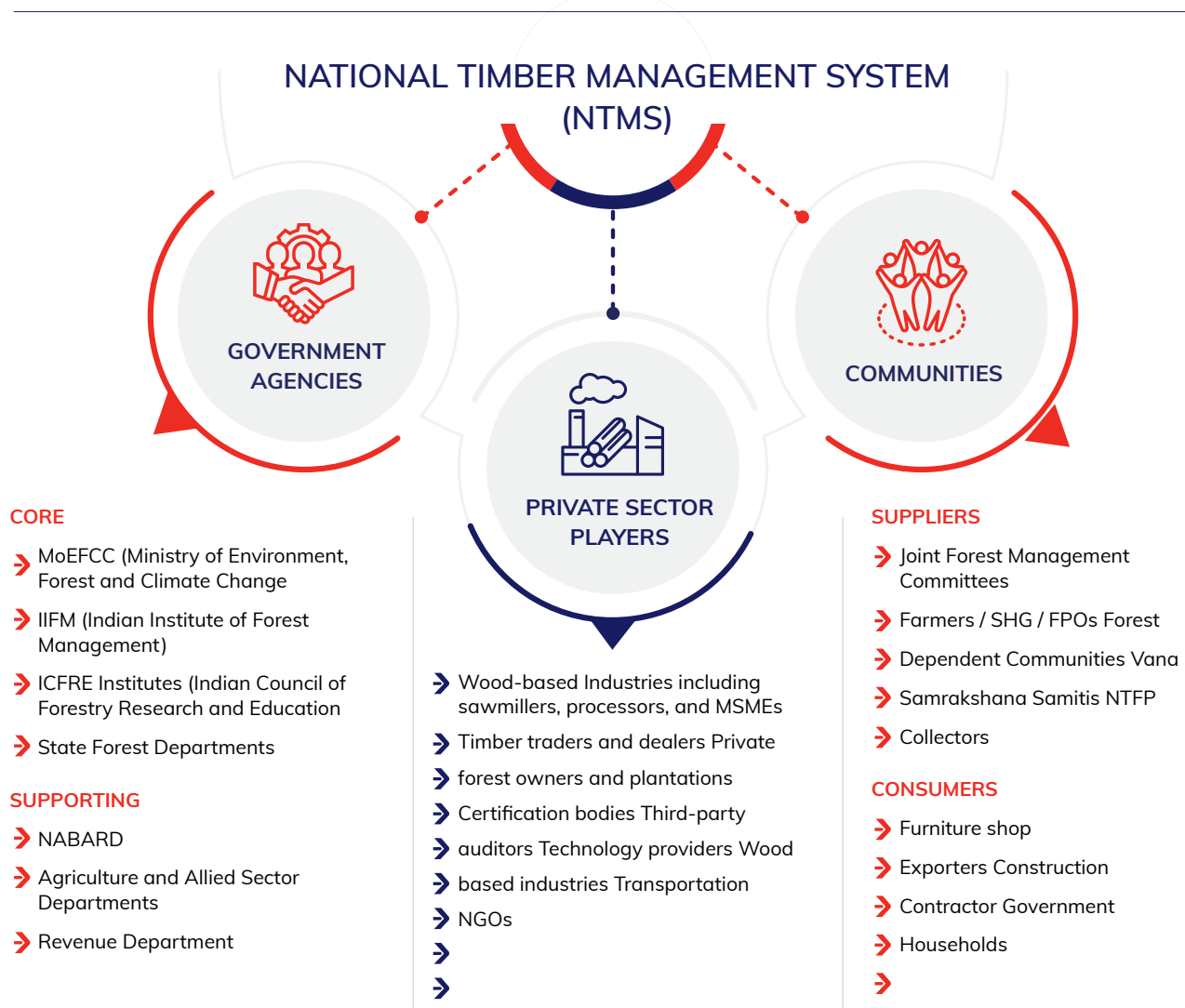
1. [Global Forest Resources Assessment 2025](#)

2. [India Timber Supply and Demand 2010-2030, ITTO](#)

3. [About NTPS](#)

The MoEFCC aspires to upgrade the NTPS into a **National Timber Management System (NTMS)** by deploying cutting-edge technologies for tracing timber, building the capacities of stakeholders, and providing user-friendly, secure, scalable, and accessible digital solutions as well as raising awareness among the prospective users to transforming India's forestry sector into a global model of sustainable innovation and supply chain excellence.

Figure 1: Mapping of key stakeholders in timber traceability system



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India stands at a critical juncture where aligning our forest and agroforestry systems with global commitments on climate, biodiversity, and sustainable trade is an imperative. By institutionalising certification and traceability, we can build confidence, empower farmers, and unlock the vast potential of agroforestry to drive economic growth, promote gender equality, and conserve our natural heritage.

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Mr. Amit Anand

Deputy Inspector General (Forest Policy), Ministry of Environment, Forest and Climate Change (MoEFCC), New Delhi

India's Progress in Forest Certification and Digital Traceability Systems

Figure 2: India's Progress in Forest Certification and Digital Traceability Systems



Indian Forest and Wood Certification Scheme designed to promote sustainable forest management, agroforestry, and responsible wood industry practices



Group Certification Scheme enables multiple smallholders or forest owners to obtain a single certificate thereby reducing costs and streamlining compliance



Advanced technologies like TiGram builds trust and drive regulatory compliance thereby unlocking premium markets and safeguarding India's green future

Indian Forest and Wood Certification Scheme (IFWCS) - PRAMAAN — Tailored Certification System for India's Diverse Forest Resources

IFWCS-PRAMAAN is an Indian voluntary third-party certification system designed to promote sustainable forest management, agroforestry, and responsible wood industry practices. The scheme has been developed through comprehensive stakeholder consultations and has been aligned with global Sustainable Forest Management principles with three certification schemes: Forest Management for recorded forests, Trees Outside Forests for agroforestry, and Chain of Custody for traceability. Along with the certified forests, agroforestry has become the major focus as over 30% of the country's total timber supply comes from Agroforestry. The scheme is intended to be affordable, less paper-intensive, and user-friendly, which will promote its widespread adoption among farmers and local industries.⁴

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India has achieved the third-largest increase in forest cover in the world, reflecting our strong environmental commitment. Yet less than one percent of our forests is certified. This is not a shortcoming, but a powerful opportunity—an open field to expand sustainable forest management, strengthen certification systems, and position India as a global leader in responsible forestry.

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Dr. K. Ravichandran

Director, Indian Institute of Forest Management

4. [Indian Forest and Wood Certification Scheme Guidelines](#)

Group Certification Scheme: For Collaboration, Cost-Sharing and Wider Adoption

Group certification enables multiple smallholders or forest owners to obtain a single certificate, with audits conducted on a sampling basis. This approach is exemplified by initiatives like the IFWCS-PRAMAAN Scheme, FSC's Small or Low Intensity Managed Forests (SLIMF) Programme, and Madhya Pradesh's Lok Vaniki Act, which facilitates smallholder inclusion in certification systems. By participating in group certification, smallholders can reduce certification costs, improve their market access, and benefit from streamlined compliance processes, promoting sustainable forest management practices.

Collaboration between the forestry, agriculture, and horticultures would be helpful in building confidence, eliminating the duplication of work done, and wider adoption of these initiatives in remote areas, which is essential for enhancing the sustainable management practices in agroforestry sector. Moreover, being in line with international standards such as the UK Timber Regulation (UKTR) would not only increase India's access to export market, access but also enhance its international reputation among the prospective users of timber sourced from India.

Advanced Technologies Build Trust and Transparency

Advanced technologies like **TiGram**, a mobile application that was pilot-tested in Kerala as part of the Forest-PLUS 2.0 Programme, have enhanced trust and transparency in timber traceability systems. Through the monitoring of timber movement and sales from private lands, TiGram significantly simplifies timber felling and transit under the Kerala's "Promotion of Tree Growth in Non-Forest Areas Act" of 2005. It offers online applications, verification, and issuance of permits for tree growers in a straightforward manner. While using this app, the forest departments along with timber owners, sawmills, and buyers can easily track their products through QR codes. Besides, GPS devices are installed on trucks to provide real-time monitoring that ensures the trucks do not divert to destinations that they are not meant for and that they stick to their designated routes and destinations.

TiGram demonstrates how digital innovation can drive regulatory compliance, thereby promoting the agenda of sustainable forestry by unlocking premium markets and safeguarding India's green future.⁵

5. [Forest Plus 3.0](#)

The United Kingdom's Progress in Certification Standards and Traceability Frameworks

The UK Context

The forestry and timber industry in United Kingdom makes a considerable contribution to the growth of the economy and the conservation of the environment by creating a gross value added of £638 million in the year 2023 while 57% of England's woodlands are under sustainable forest management as of March 2025.⁶

The demand for timber is rising with softwood imports projected at 5.62 million m³ in 2025 amid global trends, positioning UK to capitalize on domestic gains and circular practices. With this growing opportunity, the industry has begun to leverage by aligning itself with “forward-looking strategies” such as ‘Timber in Construction Roadmap’ to cater to the rising demand for construction materials to fulfil growing demand with locally sourced, and certified materials. This initiative by the UK Government represents the need to increase sustainable wood in the UK construction sector, which will help the country in achieving net zero in the climate crisis.⁷ Moreover, initiatives like the “England Woodland Creation Offer” are driving afforestation, with 5,765 hectares planted in 2024-25, streamlining grants and boosting production capacity. Collectively, these initiatives propel are propelling UK towards its ambitious 16.5% woodland cover target by 2050, unlocking benefits in carbon sequestration, biodiversity conservation, and a resilient economy.⁸

The UK Forestry Standards

Due to rising global demand for responsible timber sourcing and environmental pressures, the UK Forestry Commission launched the UK Forestry Standard (UKFS) in 1998. It has consolidated laws, policies, best practices, and European commitments from Helsinki (1993) and Lisbon (1998) into a single auditable framework.

Building on this foundation, the UK Woodland Assurance Standard (UKWAS) was designed in 1999, by the collaborative efforts among forestry groups, environmental organizations, and community representatives. UKWAS is a voluntary certification standard that translates UKFS guidelines into practical management practices verified by third parties, while also meeting global standards. Designed as one national standard for all to use, UKWAS was widely accepted by all including the Forest Stewardship Council (FSC) in 1999, and the Programme for the Endorsement of Forest Certification (PEFC) endorsed in 2002. Today, it supports certification

6. [Forestry Commission Annual Report and Accounts 2024-25](#).

7. [Timber in Construction Roadmap](#).

8. [UK timber imports rose in Q3: Forest Machine Magazine](#).

of 44% of UK woodlands (1.44 million hectares as of 2023), including all public lands and 24% of private lands.⁹ In support of these standards, the UK Government's Timber Procurement Policy (TPP) mandates all public sector procurement of timbers to achieve full chain-of-custody legality and sustainability, accepting Category A evidence from FSC, PEFC, and Grown in Britain (100% legality, >90% sustainability compliant) alongside FLEGT VPA-licensed timber, with Category B for other verifiable proofs. This policy influences 20-40% of market demand in the UK, driving certified domestic supply, supporting small woodland owners, and combating illegal logging. Alongside UKFS and UKWAS, TPP places the UK in a leading position worldwide for sustainable forestry, encouraging economic resilience in construction, furniture, and public projects.

KEY LESSONS FOR INDIA

-  To build trust and uptake, IFWCS-PRAMAAN too has incorporated mandatory independent third-party audits, similar to UKWAS, converting guidelines into verifiable daily practices across forest management, trees-outside-forests, and chain-of-custody. India should try to secure endorsement of its certification and traceability program from global schemes like PEFC and FSC, paving the way certified exports beyond current voluntary levels.
-  We suggest the initiation of an India-specific "Timber in Construction Roadmap" to connect certified wood from the PRAMAAN with the demand for Pradhan Mantri Awas Yojana (PMAY) and green building projects, in line with the initiative taken by the UK. India's import of timber can thus be utilized for the promotion of agroforestry, jobs for green transformation, and achieving net-zero through the utilization of locally sourced materials.
-  The UK Forestry Commission and Woodland Trust spurred the adoption of UKWAS by integrating clear standards into their operations, and by promoting the use of sustainably sourced timber, hence increasing market confidence. Similarly, in the Indian context, the nation can promote the forest departments and cooperatives to spread the adoption of IFWCS-PRAMAAN, NTPS, and the NTMS, for increasing the market coverage, while it mounts an awareness campaign to popularize the use of sustainably sourced timber.

9. <https://ukwas.org.uk/about/history/>

Group Certification and Small Woodland Owners

Group certification schemes, such as the UK Forest Certification Group (UKFCG) and Scottish Woodlands, can help in reducing the costs and removing barriers for small woodland owners. By distributing costs among members and performing audits via sampling rather than individual inspections, these models make certification affordable to smallholders who might otherwise be excluded due to high process costs or complexity. This approach enables participation in certified timber markets and often allows small woodland owners to achieve premium prices, creating both economic and sustainability incentives for broader adoption.

CASE STUDY



The success of the UKFCG

Since its launch in 2012, the UKFCG has grown from 16 members to over 200 group members and now certifies more than 100,000 hectares of woodland under FSC and PEFC schemes (UKFCG, 2024). Such widespread adoption among small woodland holders indicates that group certification is a cost-effective sustainable forest management certification in the UK.

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Traceability is the backbone of trust, ensuring that every certified product tells a story of responsible forestry – from seed to shelf, we track every step, every time, to assure buyers and uphold the integrity of sustainable forest management.



Mr. Phil Webb

Company Director, UK Forest Certification Group Ltd.

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KEY LESSONS FOR INDIA



The UK strengthened group certification through online tools such as PEFC's web-based tools, which facilitated online registration and management plans and compliance tracking for small forest owners. India could incorporate similar digital features into NTMS to simplify audit tracking for smallholders and groups in remote areas, extending reach without added complexity. Additionally, securing international accreditation for PRAMAAN and NTMS would enhance global acceptance of India's national timber traceability program, boosting export credibility and market access.

KEY LESSONS FOR INDIA (CONTINUED)

- 💡 Successful UK groups, such as UKFCG, were accomplished through monitored growth, training, and shared responsibilities, which added up to over 200 members and 100,000 hectares. India can also leverage the initiatives like IFWCS-PRAMAAN, Group Certification, and MP's Lok Vaniki Act model to strengthen their certification groups through training and funding from private players, NGOs and government agencies.
- 💡 UK experiences also highlight linking certification to tangible revenue benefits, such as premium prices, leading to improved retention and adoption of certification and traceability among smallholder farmers. To encourage the voluntary adoption of agroforestry certification and traceability among smallholder farmers, actual financial benefits of certified timber in the furniture and paper industry should be prioritized.

Technology and Due Diligence Build Market Trust

Reliable technology deployment and rigorous due diligence proved to be the critical factors in building market trust under UK traceability systems. To eliminate the influx of illegal logs and to ensure sustainable supply chains in timber industry, the UK has developed interconnected regulatory frameworks. The United Kingdom Timber Regulation (UKTR) has made it mandatory for operators who put logs or wood products into the in the Great Britain market to carry out due diligence through risk assessments, complete traceability, and legality verification. This regulation marks a significant move towards ensuring that the logs available in the market have been sourced legally and in a sustainable manner.

To complement UKTR, the UK has the Forest Law Enforcement, Governance and Trade (FLEGT) scheme that encourages the signing of Voluntary Partnership Agreements (VPAs) with timber-producing countries. Timber products that carry the FLEGT logo are accepted as automatic proof of compliance with UKTR as well as the Timber Procurement Policy (TPP), making it easier for companies to comply with these policies. It is quite evident that UKTR's enforcer, the Office for Product Safety and Standards (OPSS), has been actively enforcing compliance with policies since 2022, as they have been able to conduct over 1,200 checks with an incredible 95% compliance rate. UKTR has reported a 30% decrease in non-compliance in 2024-25.

These strategies are further supported by initiatives such as the IMPACTT project (2025), which provides overlays of biodiversity and carbon data on PEFC/UKWAS using QR codes to verify mass timber on TPP Category A. This digital approach enhances transparency and traceability, making it easier for consumers and regulators to verify the sustainability credentials of timber products. The Timber in Construction Roadmap (2025) advances digital chain-of-custody

and environmental declarations by 2028, aligning with broader sustainability goals in the construction sector.

FLEGT's 7 VPAs have played a crucial part in certifying 15% of imports, resulting in a considerable decline in illegal timber falling to below 3%, which stood at 12% in 2015. Currently, a review of the Department for Environment, Food, and Rural Affairs (Defra) TPP, which will end in March 2025, hopes to harmonize with the European Union Deforestation Regulation (EUDR) to ensure that the UK has consistent policies. Through all these initiatives, the UK position itself as a leader in sustainable timber trade, enhancing both construction and export resilience while setting a global benchmark for combating illegal logging.

CASE STUDY



Sector leading traceability

An example of business benefit driven by enhanced traceability is the collaboration between “Grown in Britain”, timber merchant Tyler Hardwoods and UK furniture maker ercol. By sourcing “Grown in Britain” certified timber and using the GiB supply chain traceability system, ercol was able to redevelop its product ranges based on home-grown timber and clearly communicate provenance to its customers. This supported increased

production and competitiveness in a market that is increasingly focused on sustainability. Tyler Hardwoods reported that offering GiB-certified timber has helped the business to win orders by meeting customer demand for verified origin and sustainable sourcing. These experiences highlight how traceability systems like Grown in Britain’s Chain of Custody certification can open market opportunities for UK timber businesses (Forestry Commission, 2025).



The Grown in Britain logo stamped on ercol furniture.
© ercol

CASE STUDY



Digital tracking in the supply chain

In response to increasing concerns about illegal timber sourcing in the UK construction sector, a timber supplier ‘Think Timber Ltd’, has recently introduced a traceability solution that embeds unique QR codes on its timber packaging. This system has been designed to support supply chain transparency, build trust with customers and address the competitive disadvantages that are faced by businesses investing in responsible sourcing.

KEY LESSONS FOR INDIA

-  GiB provides certification specifically designed for UK timber and makes certification more accessible through a simplified auditing process, transparency in licensing, and defined incentives for local producers. Building on this experience, India can also initiate a “Grown in India” scheme with a strict trademark rule to avoid greenwashing and build consumer trust.
-  UK case studies, such as the ercol, GiB and Think Timber's QR packaging, illustrate how traceability drives business growth by verifying sustainable origins. India can build on NTMS's strong tracking foundation by partnering with sawmills, exporters, and buyers to co-brand PRAMAAN-certified products. Clear labelling of provenance on packaging builds consumer trust, product differentiation in highly competitive markets, and access to premium pricing. Strategic marketing of certified timber turns compliance into a competitive advantage, as seen in UK firms winning sustainability-focused contracts through visible branding.
-  India can complement NTMS with UKTR-driven compulsory due diligence-risk assessments and legality checks supported by dedicated enforcement bodies like OPSS for regular audits, targeting high compliance rates and reductions in non-compliance.
-  India can also establish multi-stakeholder reviews like Defra's TPP process to iteratively refine NTMS, ensuring sustained market trust through technology and partnerships.
-  The UK's IMPACTT project can be replicated in India within the NTMS by scaling TiGram-like proven technology-expanding existing QR codes and GPS truck tracking on a national level scale and add a comprehensive biodiversity/carbon data overlay for end-to-end verification from harvest to export.

While summing up, the UK's advanced frameworks like UKWAS, TPP, UKTR, FLEGT VPAs, and new developments such as IMPACTT and Grown in Britain, provide concrete blueprints on which India can build its already strong NTPS/NTMS, PRAMAAN, TiGram, and group certification schemes from strong foundations to global benchmarks. By integrating mandatory due diligence with OPSS-style enforcement, scaling TiGram's QR/GPS tech with biodiversity overlays, launching a “Grown in India” scheme and Timber in Construction Roadmap, India can achieve 95%+ compliance, reduce illegal timber flows, and unlock premium export markets while incentivizing smallholder agroforestry farmers.

The UK-India partnership adds immense value by fostering multi-stakeholder collaboration, capacity building, and aligned sustainability standards accelerating India's transition to a resilient economy that meets net-zero goals, boosts farmer incomes, and positions the nation as a leader in sustainable timber trade.

