



# Agroforestry: Global Perspective on Policies and Practices

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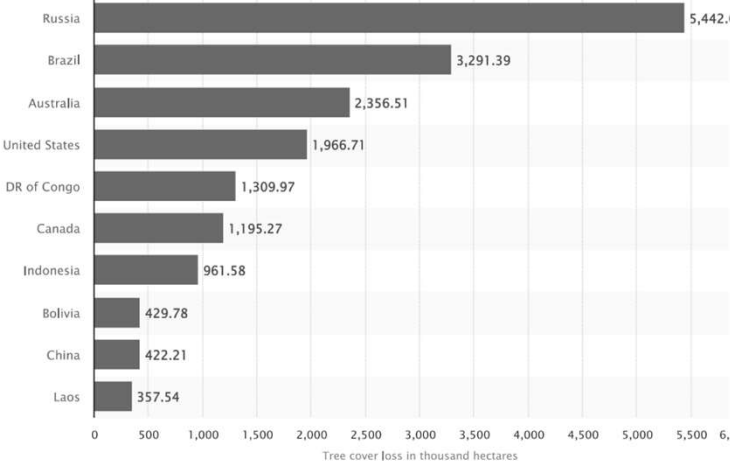






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**In 2010, the world had 3.92Gha of tree cover, extending over 30% of its land area. In 2020, it lost 25.8Mha of tree cover.**

**Impacts of tree cover loss**  
**Global annual tree cover loss in 2020, by select country**  
*(in 1,000 hectares)*



Country	Tree cover loss (in 1,000 hectares)
Russia	5,442.0
Brazil	3,291.39
Australia	2,356.51
United States	1,966.71
DR of Congo	1,309.97
Canada	1,195.27
Indonesia	961.58
Bolivia	429.78
China	422.21
Laos	357.54











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### 10 Countries With Highest Percentage Of Forest Cover

- Suriname - 98%
- Guyana - 94%
- Federated States of Micronesia - 92%
- Gabon - 91%
- Solomon Islands - 90%
- Palau - 90%
- Equatorial Guinea - 88%
- Liberia - 80%
- Papua New Guinea - 79%
- Finland - 74%

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### Countries with least forest cover

156	Somalia	10
157	Cote d'Ivoire	10
158	Mongolia	9
159	Turkmenistan	9
160	Uzbekistan	8
161	Namibia	8
162	Kyrgyzstan	7
163	Iran	7
164	Israel	7
165	Kenya	6
166	Pakistan	5
167	Tunisia	5
168	United Arab Emirates	5
169	Chad	4
170	Tajikistan	3
171	Syria	3
172	Maldives	3
173	Iraq	2
174	Afghanistan	2
175	Palestine	2
	Kiribati	







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## Country Status: India

**Around 24.62 % tree cover (1.53 million ha)**

**33% tree cover is considered as an ideal ecological situation**

**Real potential of enhancing the green cover is through agroforestry and trees outside forest**

**How to increase agroforestry and Trees Outside Forest?**

- Policy support
- Action support

According to the ISFR 2021, India's total forest cover is **713,789 sq. km.** (21.71 percent of India's geographical area) while the tree cover is estimated to be **95,748 sq. km.** (2.91 percent of India's geographical area).

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## How policies help agroforestry?

- Administration & management at national and sub-national level
- Addressing restrictions imposed by existing policies and rules
- Enabling farmers to adopt agroforestry by removing hurdles and restrictions through other laws/ policies
- Protecting farmers' rights and benefits
- Promoting education, research and extension services
- Encourage and support financial and insurance institutions to introduce credit and insurance instruments for agroforestry
- Enhance availability of quality planting material, market linkages, and value chains
- Support resource mobilization



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## National Agroforestry Policy, India (2014) & Nepal (2019)



Inter-Ministerial Committee to over see implementation of policies



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## National Agroforestry Policy: A Success Story from India

**Agroforestry Mission**  
\$ 146 million

**Bamboo Mission**  
\$ 197 million





**Finance commission**  
\$ 9 billion

**CSR**  
\$ 104 million

**About 70 % of country's timber requirement met from trees on-farm**

**Generates about \$ 25 billion/ year**

**During 2015-2019, India's tree cover increased by about 2%. About 1.7% of this comes from trees outside forests**

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## GLOBAL SCENARIO

### National Agroforestry Policies

  
India

  
Nepal

  
Gambia

  
Belize

  
Maldives

Agroforestry a part of policies and strategies related to agriculture, forestry, climate change and NRM  
EU – Common Agriculture Policy, Agroforestry Concessions – Latin America

  
Brazil

  
China

  
Ethiopia

  
France

  
Guatemala

  
Kenya

  
Mali

  
Niger


  
North Korea

  
Senegal

### ASEAN Guidelines

  
Brunei

  
Cambodia

  
Indonesia

  
Laos


  
Myanmar

  
Malaysia

  
Philippines

  
Singapore


  
Thailand

  
Vietnam



Rwanda- Strategy



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## Bottlenecks at action/ implementation level: Solutions?

- **Capacity – well Trained Human Resources**
- **Extension services are not sufficient even for agriculture**
- **Hiring additional manpower, training and deploying in field is a very time and resource consuming process**
- **Alternative: Technology?**
- **Several mobile based Applications – Tree species identifiers, selecting right species for right place App, Tree planting and survival monitoring App, Suitable Agroforestry System Finder App.**

CIFOR World Agroforestry Global Landscapes Forum Resilient Landscapes

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## Remote sensing & Geo-Informatics

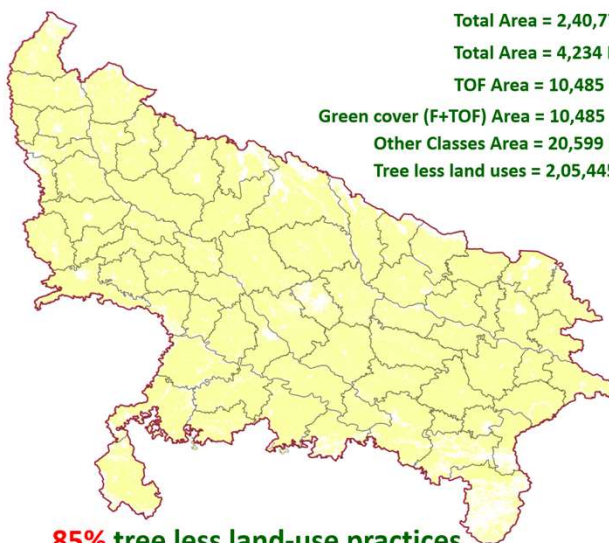
- Monitoring of area under agroforestry/ Trees Outside Forest
- Monitoring the area under a particular tree species
- Feasibility of tree planting through agroforestry
- Feasibility studies – where is the space to plant trees?



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## TOF Expansion opportunities mapping: Treeless landscapes

UTTAR PRADESH  
*Tree less land uses*



Total Area = 2,40,772 Km<sup>2</sup> (100%)  
 Total Area = 4,234 Km<sup>2</sup> (1.76%)  
 TOF Area = 10,485 Km<sup>2</sup> (4.35%)  
 Green cover (F+TOF) Area = 10,485 Km<sup>2</sup> (6.11%)  
 Other Classes Area = 20,599 Km<sup>2</sup> (8.55%)  
 Tree less land uses = 2,05,445 Km<sup>2</sup> (85.27%)

**85% tree less land-use practices**

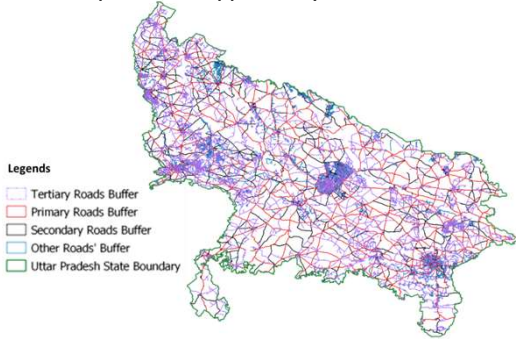
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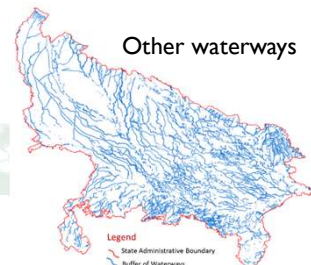
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# TOF Expansion opportunities: Linear Plantation (68,000 Sq. KM)

Linear plantation opportunity near roads



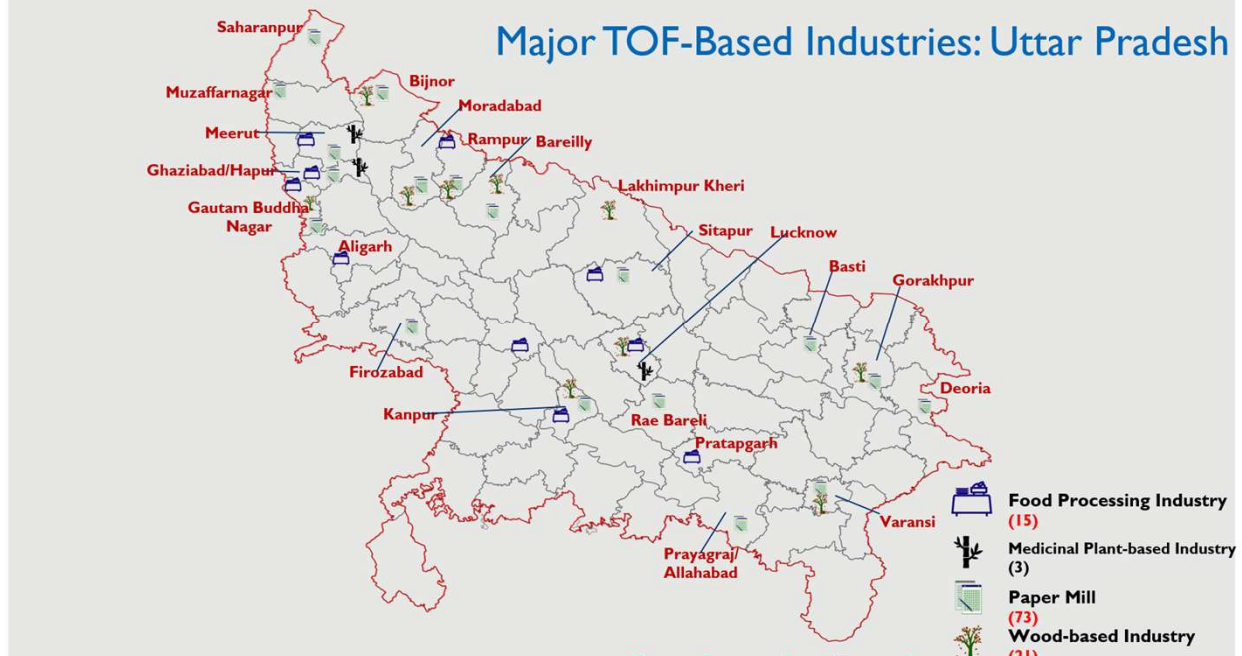
Linear plantation opportunity near -



Linear Planting Opportunities-	Area Description	*Area Km <sup>2</sup>
Alongside the Road network	Total Road Buffer	13,338
	Road Buffer masked by Existing TOF	12,973
Alongside the Railways network	Total Railways Buffer	5,501
	Railways Buffer masked by Existing TOF	5,062
Alongside the Major Rivers network	Major Rivers Buffer (5km buffer)	42,810
	Major Rivers Buffer masked by Existing TOF	39,156
Alongside the other Waterways network	Waterways buffer Total	21,178
	Waterways Buffer masked by Existing TOF	19,554

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## Major TOF-Based Industries: Uttar Pradesh



\*Source: Internet-based Research

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## More issues to be tackled: Quality Planting Material

### **Certified Nurseries:**

Large scale/ mass production (Government, private sector, industries with contract growing models, herbal, medicinal, fruit based industries)  
– Good quality, early maturing – buy back guarantees

**Medium scale nurseries:** Small and medium businesses, farmers' organizations, self help groups

**Small-village based nurseries:** For both trees and vegetables

Bring nurseries closer to planters



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## More issues to be tackled: Processing and value chain

- Most tree products sold as raw material
- Least opportunities of even preliminary processing/ value addition
- Simple processing increases the price and profits by several folds which usually goes to middle men
- Concept of “aggregation” is the need of the day



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## More issues to be tackled: Lack of Credit and Insurance

- Like crops and livestock no credit facilities for trees
- Trees have immense value but not accepted as collateral/ guarantee to get loans
- No minimum support price for tree based products
- No Government support in case of extreme weather as given for crop losses
- Almost no insurance possibilities for trees
- Very less benefits are passed on to farmers for contribution to ecosystem services



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## More issues to be tackled: Education, research, regional and internal collaboration

- Research and educational organizations need to do more
- National-regional-international cross learning and collaboration
- Educators, researchers, Government officers, policy makers need to interact more
- Academic societies – National Agroforestry Societies, International Coordinating Organizations like International Union for Agroforestry (<https://iuaf.org>) need to be more active and supportive
- Institutions and individuals are encouraged to join IUAF as member to receive regular updates and useful material on regular basis



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