

# Grow Forest Certification Mechanism

## Introduction

Forests play an important role in mitigation and adaptation to climate change. Forests are considered as **sink, reservoir and source of carbon**. Healthy and growing forests sequester and store more carbon than any other terrestrial ecosystem. Carbon sequestration by forests has attracted much interest globally as it is a relatively **inexpensive means of mitigation of climate change**.

We depend on forests for our survival, from the air we breathe to the wood we use. Besides providing habitats for animals and livelihoods for humans, forests also maintain biological diversity, watershed protection, prevent soil erosion, mitigate climate change, provide recreation facilities, improve air quality and help alleviate poverty. The forest wealth in our country is extremely diverse as a result of the huge variation in the topography of the country. **Yet, despite our dependence on forests, we are still allowing them to disappear.**

## Background

India's national climate action plans, known in UN parlance as **Nationally Determined Contributions (NDCs)**, under the Paris Agreement set three major goals:

1. To increase the share of non-fossil fuels to 40% of the total electricity generation capacity,
2. To reduce the emission intensity of the economy by 33 to 35% by 2030 from 2005 level, and
3. **To create additional carbon sink of 2.5 -3 billion tonnes of CO<sub>2</sub> equivalent through additional forest and TREE COVER.**

The **National Action Plan on Climate Change (NAPCC)** encompasses a range of measures. It focuses on eight missions. The **National Mission for a Green India or Green India Mission (GIM)** is one of the eight Missions outlined under NAPCC. GIM aims to both increasing the **forest and tree cover** as well as increasing the quality of the existing forest cover.

GIM envisages a holistic view of greening and focuses on multiple ecosystem services, especially, biodiversity, water, biomass, preserving mangroves, wetlands, critical habitats etc. GIM adopts an integrated approach using inter-sectoral convergence that treats forests and **non-forest public lands** as well as **private lands** simultaneously and seeks for convergence with related missions and schemes such as MGNREGS, Compensatory Afforestation Management and Planning Authority (CAMPA), National Afforestation Program (NAP), National Rural Livelihood Mission (NRLM), Integrated Watershed Management Program (IWMP). **GIM aims to increase the forest/tree cover to the extent of 5 million hectare (mha)** and improving quality of forest/tree cover of another 5 mha of forest/non-forest lands and increasing **forest based livelihood income of about 3 million households**.

The Indian Ministry of Environment, Forest and Climate Change has developed a new draft **National Forest Policy (NFP) 2018** to replace the existing, 30-year old policy. **The draft calls for a minimum of one-third of India's total geographical area to be under forest or tree cover and supports the Nationally Determined Contribution (NDC) target of creating an additional (cumulative) carbon sink of 2.5–3 GtCO<sub>2</sub>e by 2030.**

NFP, 2018 talks about **climate change mitigation through sustainable forest management**. The draft policy document also talks about **degraded land** and how it can be improved by undertaking **afforestation** activities using **public private partnership models**.

As per the policy document, *“Public private participation models will be developed for undertaking afforestation and reforestation activities in degraded forest areas and forest areas available with Forest Development Corporations and outside forests”*.

Achieving this ambitious target requires a well-planned strategy taking into consideration all possible interventions within the forests and all other available lands.

### Indian State of Forest

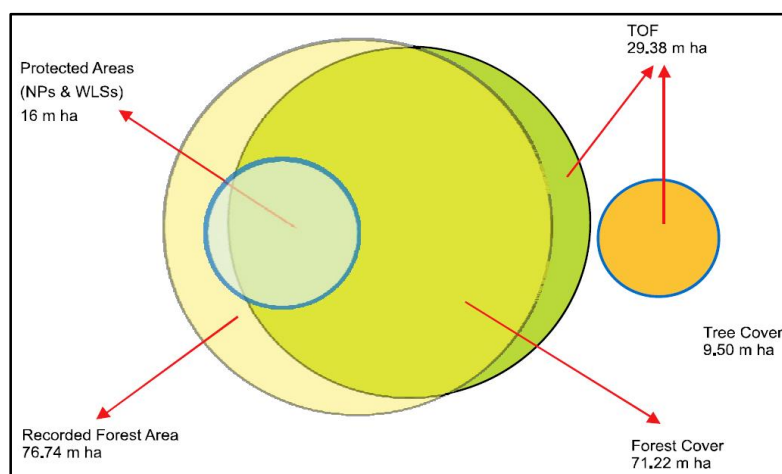
As per **Indian State of Forest Report (ISFR), 2019** the forest cover of the country has been mapped into three canopy density classes viz Very Dense (VDF), Moderately Dense Forest (MDF) and Open Forest (OF). Scrub areas though not part of forest cover, have also been mapped. The composition of forest cover as per ISFR, 2019 is given in **Table 1**.

<b>Table 1: Forest Cover of India</b>			
<b>S.No</b>	<b>Class</b>	<b>Area (sq km)</b>	<b>% of Geographical Area</b>
1	Very Dense Forest	99,278	3.02
2	Moderately Dense Forest	3,08,472	9.39
3	Open Forest	3,04,499	9.26
<b>4</b>	<b>Total Forest Cover</b>	<b>7,12,249</b>	<b>21.67</b>
5	Scrub	46,297	1.41
6	Non-Forest	25,28,923	76.92
<b>7</b>	<b>Total Geographical Area</b>	<b>32,87,469</b>	<b>100.00</b>
<i>Source: ISFR 2019</i>			

As per ISFR, 2019 there is a **0.13%** increase in forest cover of India as compared to that in 2017. Although most of the recorded forest area has vegetation cover on it, yet there are blanks and areas with density less than 10% within it. On the other hand, there are areas outside the recorded forests with tree stands of more than 10% canopy density and size 1 ha or more, such areas also constitute forest cover and are included in the forest cover assessment of FSI. **Therefore, the changes taking place in the forest cover is not necessarily due to changes within the recorded forest areas (RFA) but also because of changes outside recorded forest area.** It is clearly indicated in the **Table 2 & 3** given below, that there is a positive change in the percentage of forest cover outside the recorded forest area as compared to change in forest cover inside the recorded forest area. The degradation of forest cover inside the recorded forest area may be due to many reasons including anthropogenic activities. At this stage, a **PPCP based mechanism** is required for **regeneration of degraded forest and increase of tree/forest cover** in order to achieve the ambitious target of creating an additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> eq through additional forest & tree cover by 2030.

Table 2: Change in Forest Cover (within RFA)				
S.No	Category	Forest cover inside RFA/GW 2017	Forest Cover inside RFA/GW 2019	Percentage change in Forest Cover inside RFA/GW
1	Very Dense Forest	85,613	86,729	1.3
2	Moderately Dense Forest	2,40,632	2,39,817	-0.33
3	Open Forest	1,87,520	1,86,890	-0.33
4	Total	5,13,766	5,13,436	-0.06
Source: ISFR 2019				
Table 3: Change in Forest Cover (outside RFA)				
S.No	Category	Forest cover outside RFA/GW 2017	Forest Cover outside RFA/GW 2019	Percentage change in Forest Cover outside RFA/GW
1	Very Dense Forest	12,545	12,549	0.03
2	Moderately Dense Forest	67,685	68,655	1.43
3	Open Forest	1,14,277	1,17,609	2.92
4	Total	1,94,507	1,98,813	2.21
Source: ISFR 2019				

Extent of Tree outside forest (TOF) (**ref figure 1**) and its dynamics is important information for policies, planning and programme formulation for its management and enhancement. As per ISFR 2019, the extent of TOF has been assessed 29.38 million hectares which is 36.40 % of the total forest and tree cover in the country, see **Table 4**.



Source: ISFR 2019

**Figure 1: Relationship between RFA, Forest Cover, TOF, Tree Cover**

<b>Table 4: Extent of Tree Outside Forest</b>		
<b>S.no</b>	<b>Parameters</b>	<b>Statistics (sq kms)</b>
1	Geo Area	32,87,469
2	Tree Cover 2019	95,027
3	Forest Cover outside RFA	1,98,813
4	Extent of TOF	2,93,840
5	% of Forest & Tree Cover	36.40
6	% of Geo Area	8.94
<i>Source: ISFR 2019</i>		

### **Classification of Geographical Area**

Agricultural land consists of net area sown, current fallow lands other than current fallows, land under miscellaneous tree crops and culturable waste land. Non-agricultural land includes forest area, area under non-agricultural use, barren and unculturable land and permanent pasture and other grazing land. As per Land Use Statistics 2017, the classification of geographical area is given in **Table 5**.

<b>Table 5: Classification of Geographical Area</b>		
<b>S.No.</b>	<b>Classification</b>	<b>In million ha (Year 2014-15)</b>
	<b>Geographical Area</b>	328.73 mha
1	Forest area	71.22 mha (21.67%) – as per ISFR 2019
	<b>Not available for cultivation</b>	43.88 mha (14.25%)
2	Area under non-agricultural use	26.88 (8.73%)
3	Barren and un-culturable land	17.00 (5.52%)
	<b>Other uncultivated land excluding fallow land</b>	25.83 (8.39%)
4	Permanent pasture and grazing land	10.26 mha (3.33%)
5	land under miscellaneous tree crop and groves not included in net area sown	3.10 mha (1.01%)
6	<b>Culturable Waste land</b>	<b>12.47 mha (4.05%)</b>

7	Fallow land other than current fallows	11.09 mha (3.60%)
8	Current Fallows	15.09 mha (4.90%)
9	Net Area Sown	140.13 mha (45.52%)

Source: Land use Statistics, 2017

## Objective

Now, when the climate change is causing increasing alarm and worry, the significance of **Grow Forest Certification Mechanism (GFCM)** comes into existence. The objective of this study cum conceptual note is to propose a mechanism which is symbiotic in nature and can be implemented through **Public Private Community Partnership (PPCP)** model. The successful implementation of this mechanism will serve the following purposes.

- Maintenance of Environmental Stability
- Out of 17 SDGs, this will be aligned with 8 SDGs as follows:
  - SGD 1 – No Poverty
  - SDG 2 – Zero Hunger
  - SDG 3 – Good Health & Well Being
  - SDG 8 – Decent Work & Economic Growth
  - SDG 9 – Industry, Innovation & Infrastructure
  - SDG 11 – Sustainable Cities & Communities
  - SDG 13 – Climate Action
  - SDG 15 – Life on Land
- Enhancing the rate of increase of forest cover/tree cover
- Removing additional levels of carbon dioxide from the atmosphere.
- Assisting Govt. of India in achieving its NDC target
- Increasing ease of doing business of private partners
- Alleviation of poverty through additional employment

## Challenges & Way Forward

As per MoEFCC's report on performance of NAPCC (2018-19, 30<sup>th</sup> Report), the allocation of financial resources is not sufficient to achieve **INDC (Intended Nationally Determined Contribution)**. There is need to implement following for achieving these targets.

- Conservation of Very Dense Forests
- Efforts to be taken for improvement of moderately dense forest to very dense forests while the **degraded and open forests** areas into moderately dense forests through conservation, restoration and **afforestation**.
- Livelihood of forest-dependent communities should be taken on priority to avoid unsustainable harvest of forest produce.

- Substantial financial allocations to the forestry sector is needed.
- Policy intervention to **permit private sector for plantation and restocking of degraded forests.**
- There is a need to produce high yielding varieties for promoting the Agro Forestry Production.
- The **harvest of forest produce, particularly fuelwood and fodder is considered to be limited under sustainable limit to avoid forest degradation and to promote better regeneration.**
  - ✓ The **carbon assessment** and socioeconomic survey has to be a compulsory exercise while preparing the working plan.
  - ✓ **Industry has to be encouraged to plant more and high yielding varieties to produce more wood and sequester more carbon.**

### Strategy

The activities which may be included in the Strategy for creating additional carbon sink of 2.5 to 3.0 billion tonnes through additional forest & tree Cover by 2030 can be broadly outlined as follows

- ✓ Improvement / Restoration of Natural Forests-Improving forests which have lost canopy density in the last few years-Improving open forests of longer vintage
- ✓ Tree planting on degraded, denuded, unproductive wastelands, culturable wastelands & other available lands in villages
- ✓ Increasing substantially the tree cover on available public, community and private lands through social forestry and agro-forestry with the involvement of especially those people who are landless, from weaker sections and women.
- ✓ Tree planting along-Roads (National Highways, State Highways and Other Roads)-Railway lines including Railway Siding-Rivers & Canals
- ✓ Greening of Urban Spaces

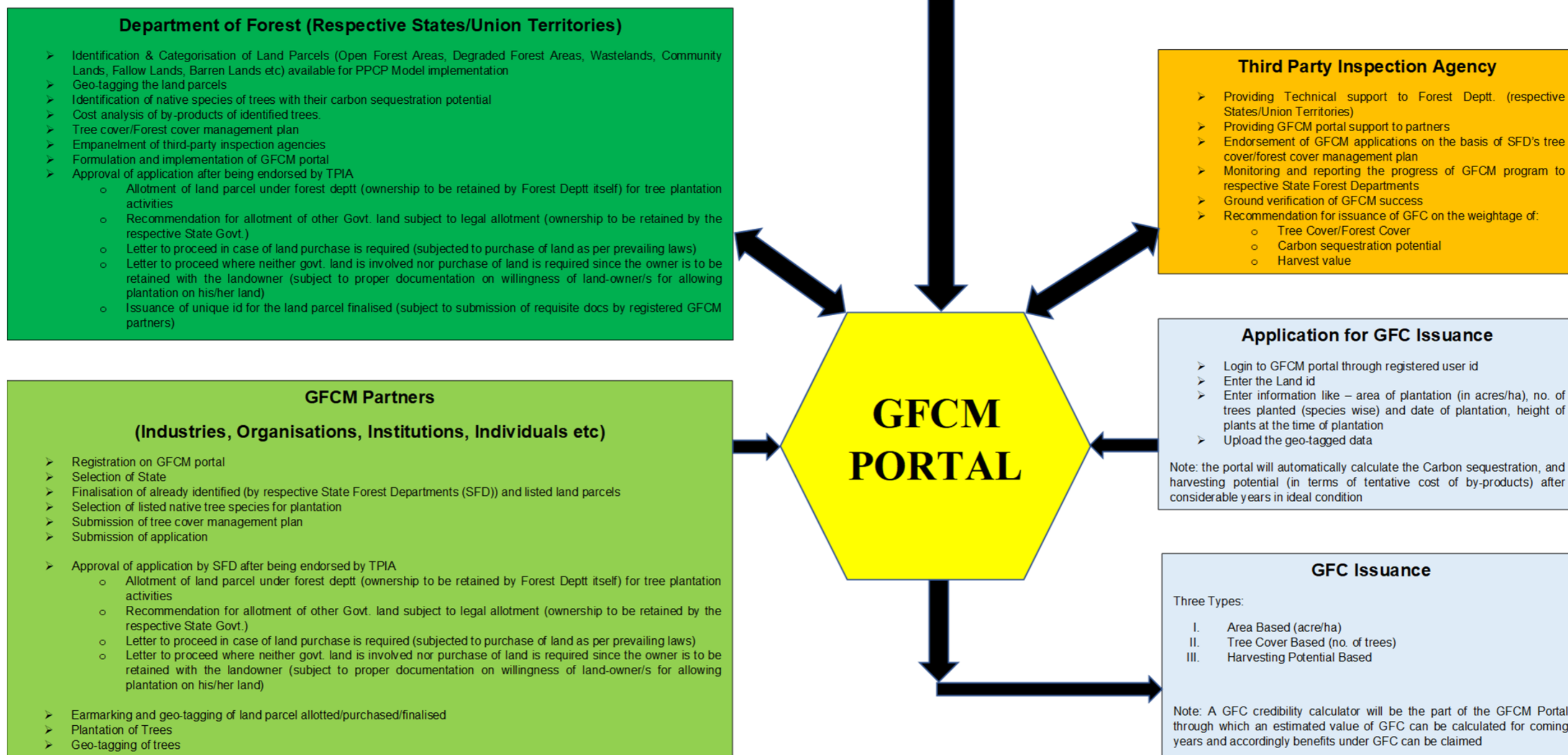
### Grow Forest Certification Mechanism (GFCM)

Grow Forest Certification Mechanism (GFCM), in short, is a tool/process as a sustainable method to assist Government of India in achieving its Nationally Determined Contribution through **Public-Private Community Participation Model (PPCP)**.

The GFCM will not only be a well framed process but also a detailed and practically possible solution to achieve environmental, social and economic sustainability but will also be **aligned with 8 out of 17 SDGs**

The detailed flowchart of GFCM along with the key players involved, their responsibilities, and procedure upto the issuance of Grow Forest Certificate is given in **Figure 2**.

## Ministry of Environment, Forest and Climate Change, Government of India



**Figure 2: Grow Forest Certification Mechanism**

## **Grow Forest Certificate Redemption**

After the rigorous and transparent process of issuance of GFC on the basis of three categories/factors ie area based, tree/forest cover based and harvest potential based. The GFC can be encashed or redeemed in the following ways:

- 1. In case of extension of existing projects or setting up of new projects which require/include:**
  - a. **Cutting of trees:** A fast track permission may be granted by the concerned Government Authority/Department on the basis of GFC obtained under Tree Cover category. The concerned Government Authority/Department can take the ownership of the calculated number of trees (against the trees to be cut down) under GFC and credibility of GFC will change accordingly.
  - b. **Forest Land:** Approval from the concerned forest department may be granted on the basis of GFC obtained under Area Category. The forest department can take the ownership of land but the ownership of standing tree cover will still be with the GFCM partner.
- 2. In case of industries which do not have GFCs and require/include:**
  - a. **Cutting of trees:** A value of GFC will be fixed by the concerned Government Authority/Department against the trees to be cut down. The same value can be paid alongwith the convenience fee online through the GFCM portal to buy the existing GFC credit of the State/Region. The concerned Government Authority/Department will seek consent of eligible GFC holders for sale of GFC of credibility equivalent to the fixed value and accordingly take the ownership of the calculated number of trees under GFC.
  - b. **Forest Land:** A value of GFC will be fixed by the concerned Government Authority/Department against the area of forest land required. The same value can be paid alongwith the convenience fee online through the GFCM portal to buy the existing GFC of the State/Region. The concerned Government Authority/Department will seek consent of eligible GFC holders for sale of GFC of credibility equivalent to the fixed value and accordingly take the ownership of the calculated area of land (except the ownership of standing tree cover) under GFC.
- 3. Carbon neutralising the automobile industry:** It should be made mandatory for all automobile buyers/producers to make their vehicle/product carbon neutral. This can be achieved by calculating the lifetime carbon emission from a particular vehicle and owning a plant/tree that will sequester an equivalent amount of carbon. The trees grown only on forest land/government land should come under the ambit of this process. Since, this will ensure the proper management of such trees and serve the purpose. The concerned authority/department will fix a value of carbon credit against the carbon that will be emitted from a vehicle during its entire life. The same value can be paid alongwith the convenience fee online through the GFCM portal to buy the existing GFC of the State/Region. The concerned Government Authority/Department will seek consent of eligible GFC holders for sale of GFC of carbon credit equivalent to the fixed value and accordingly take the ownership of the trees under GFC.

**Note: Carbon Neutral method can also be adopted for other polluting large/small industries, offices, organisations, institutions, hospitals etc**



4. **Contribution towards GDP of India:** Forests formally contribute a good percentage to India's GDP. India produces a range of processed forest (wood and non-wood) products. The income from the raw products generated from the developed tree/forest cover can be shared as per the ratio prefixed at the time of issuance of GFC

#### **Benefits of Grow Forest Certificate Mechanism**

GFCM will not only assist in achieving the ambitious target to create additional carbon sink of 2.5 -3 billion tonnes of CO<sub>2</sub> equivalent through additional forest and tree cover but will also have some additional associated benefits:

- It will provide the economic incentive to increase forest cover.
- Enhance correct forest cover accounting thus bringing in transparency.
- Prevalent mechanisms have not been very successful but GFC can be successfully used for carbon financing and hence climate change mitigation, thus contributing to sustainable growth.
- This will encourage private sector to undertake forestry/tree plantation/green belt development on a long-term basis and will mitigate the compliance risk that many infrastructure projects are facing.
- Economic incentivization of private sector for investing in forest
- Execution efficiencies
- Independent verification
- Establishing market place – enabler for continuous investment
- Sustainability of practices
- Employment and revenue generation potential
- Community involvement in economic activities – Panchayats, local population
- Social forest entrepreneurship development
- Direct and indirect tax benefits to government (no investment)
- Forest produce to benefit local population
- Environmental, Social and Economic Sustainability

#### **Support Needed from Govt of India**

- The concept can be included under Green India Mission (GIM) or CAMPA under National Action Plan on Climate Change (NAPCC).
- Enabling legal and regulatory framework to allow private sector to work on degraded forest either on ownership or right-to-use basis.
- Enabling legal framework to allow GFC to be accepted as compensatory forest in infrastructure projects.
- Land laws should be so modified wherever necessary so as to facilitate and motivate individuals/institutions to undertake tree farming
- Wherever possible degraded lands to be made available either on lease or a patta scheme

**Conclusion:**

Preliminary estimates suggest that the restoration of open forests may not be sufficient to meet the NDC target. Action with respect to ToFs can contribute significantly to achieving the NDC target, especially through agro-forestry. Key challenges in the promotion of ToFs include market support to farmers, regulatory constraints, and institutional mechanisms.

India's targets are achievable if imaginative and participatory policies are in place. India has potential of achieving additional 3 billion tonnes of CO<sub>2</sub>eq sequestration by 2030 with conservation and afforestation approach on forests and non-forest land. It is not possible to achieve this target without involvement of **people, private sector, and other government departments**. Additional 5 million ha land may be difficult but same target could be achieved in lesser area with high yielding and quality planting material.